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THE DISTRIBUTION AND  
CONCENTRATION OF MEDICARE  
HOSPITAL OUTPATIENT DEPARTMENT  
SERVICES

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## Executive Summary

In order to control the growth of hospital outpatient department (HOPD) expenditures Medicare plans to reimburse these services using a prospective payment system (**PPS**). This analysis explores the distribution, concentration, and utilization of HOPD services in hospitals of different types and in different regions. These analyses are meant to give policymakers information on the distributional consequences of an HOPD PPS. Additionally, the analysis provides baseline information on service provision patterns for comparing the impact of a PPS.

The analysis uses the 1990 claims data file for a national 5 percent random sample of beneficiaries using the HOPD. Claims are linked to hospital characteristics in order to identify hospital types and regions. Services are organized into 14 type of service categories (e.g., routine medical visits, endoscopies, advanced imaging, and diagnostic testing). There are 2.2 million claims for 726,028 beneficiaries in 5,201 hospitals.

The **first** major finding is that over half of the all services provided to Medicare beneficiaries in the HOPD are diagnostic testing services. This suggests that HOPDs may have limited control over a large proportion their services, since patients are often referred, by local physicians to the HOPD for diagnostic testing. In designing an HOPD PPS, the choices made regarding diagnostic testing services (e.g., payment levels and bundling strategies) will have significant impacts on all HOPDs.

The second major finding is the contrast between the inpatient and outpatient roles of major teaching and disproportionate share hospitals. The inpatient literature suggests that these hospital types provide more diagnostic testing and imaging and **are** more likely to provide the latest technologies and advanced procedures than their counterparts. This analysis suggests that in contrast to their inpatient role, major teaching and disproportionate share HOPDs are more oriented toward providing routine medical care than their counterparts. It is noteworthy that major teaching and disproportionate share HOPDs provide, respectively, 51 and 61 percent of all routine medical visit services. This may reflect the role played by these HOPDs in their communities. These HOPDs are often located in poor, urban areas and may be the primary source of routine care for poor Medicare beneficiaries. The impact of an HOPD PPS on routine medical visits will have its greatest impact on major teaching and disproportionate share HOPDs and potentially affect access to primary care for poor beneficiaries.

Finally, there is marked variation across the regions in the overall distribution of services provided in HOPDs. For example, the impact of an HOPD PPS on routine medical visits will most directly **affect** New England HOPDs. This regional variation in service mix may, in part, reflect the distribution of the supply of health services (e.g., **ASCs**, independent laboratories). The regional analysis suggests the need for a transition period to a PPS.

## I. Introduction

Medicare expenditures for hospital outpatient department (**HOPD**) services are growing **rapidly and, similar** to the approach taken with inpatient facility services, Medicare plans to reimburse HOPD services using a prospective payment system (PPS). **PPSs** implicitly work on the basis of averages--average payments are made for a given unit of service (e.g., the admission, the HOPD visit) based on a classification scheme (e.g., **DRGs, APGs**). Given the complexities of determining the true resource costs for services, setting the "right price" for each unit of service is difficult. Under a PPS, the payment weights will be normalized to 1.0, and ultimately the payments for each classification category can be slightly high or low. Nonetheless, a given hospital should not be excessively penalized or rewarded assuming that a broad spectrum of services paid under the system are provided in that hospital.<sup>1</sup> In short, the slightly overpaid and slightly underpaid services will cancel each other out.

This analysis explores the distribution, concentration, and utilization of Medicare HOPD services. Three questions will be addressed: (a) what is the overall distribution of HOPD services provided within hospitals and how does it vary by hospital type?; (b) how are given services concentrated across hospital types?; and (c) are there variations among hospital types in the number of services provided per patient? The first two questions provide policymakers with a sense of whether hospitals vary dramatically in the mix of HOPD services provided such that a PPS could be expected to have large distributional consequences. Moreover, they provide baseline information for comparing the impact of a HOPD PPS--the implementation of a PPS may prompt hospitals to specialize in providing certain services. The third question provides useful background information on variations in the provision of HOPD services among hospital types (e.g., do teaching hospitals provide greater numbers of tests?).

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<sup>1</sup> Obviously this depends on the accuracy of the classification categories used as the basis of the **casemix measure** and whether other payment adjusters, such as a disproportionate share hospital adjustment, are used.

## II. Database Construction and Variable Definition

This analysis uses **HCFA's** 1990 Hospital Outpatient (HOP) file. This file is comprised of all HOPD facility bills for a five percent sample of beneficiaries. The 1990 HOP file has 2.9 million claims; screening for duplicate (and debit/credit) claims, claims with zero charges, and flat-rate providers results in 2.3 million claims. These claims were then merged, on the basis of hospital provider number, with various HCFA hospital characteristic **files** (e.g., **HCRIS**, provider specific) resulting in **2,257,761** claims for 728,028 beneficiaries in 5,201 hospitals. The hospital files allow us to categorize hospitals by various policy relevant characteristics (e.g., urban/rural location, bed size, and teaching status).

Each HOPD claim has up to 20 revenue center "trailers." Each different service provided during the visit is denoted with a trailer. If, on a given date of service, the beneficiary receives a medical visit service and an x-ray, the claim should include two trailers.<sup>2</sup> Ideally each trailer provides two pieces of information to classify the claim--the revenue center code (RCC) and the HCFA Common Procedure Coding System (HCPCS) code?

The HCPCS code allows HOPD services to be categorized using a recently developed service typology. Berenson and Holahan ( 1992) **used** groups of physician consultants to categorize each of the HCPCS-coded services into 21 broad type-of-service categories. The criteria used in developing the classification scheme were completeness (i.e., all HCPCS codes were classified with little reliance on "other" categories), and category **definitions** that were mutually exclusive, **clinically** meaningful, stable over time, and relatively immune to changes in technology and practice patterns. The Berenson and Holahan type-of-service scheme includes four kinds of imaging: standard (e.g., x-rays) , advanced (e.g., CT scan, **MRI**), sonographic imaging (e.g., doppler echocardiography), and unaging involving a procedure (e.g., cardiac catheterization). Medical visit services are divided into **office** visits, hospital. visits, home and nursing visits, emergency department visits, specialist evaluation and management services, and

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<sup>2</sup> As will be discussed below, surgical **services** are usually reported using multiple trailers.

<sup>3</sup> The HCPCS coding scheme is comprised of **CPT-4** codes and alpha codes created by HCFA.

consultations. Major surgery procedures are divided into cardiovascular, orthopedic, and other. Ambulatory surgery procedures are divided into those related to the eye (e.g. cataract extraction/lens insertion) and other (e.g., hernia repair). Minor procedures (e.g., skin biopsy and nail debridement), oncology (e.g. radiation treatment and chemotherapy injections), dialysis, and endoscopy services are classified separately. Laboratory tests and other tests (e.g., electrocardiography) comprise the final categories.

The Berenson-Holahan system was designed to categorize HCPCS-coded services in all sites of care (e.g., inpatient hospital, physician's office). As a result, some of the categories are not highly relevant to the present analysis of HOPD facility services (e.g., major procedures). Therefore the number of categories was collapsed. Visit services are reported as routine, emergency, specialist/consultations, and **other**.<sup>4</sup> Imaging services are reported as standard and advanced (where advanced includes advanced imaging, sonography, and imaging procedures). Surgery is reported as ambulatory/minor, endoscopy, eye (including cataract/lens procedures), and unclassified (which will be discussed below). Tests will be reported as laboratory and other. A single category will include dialysis and oncology. The "**Other**" category includes **all** remaining services as well as unclassified services. Thus there are 14 type-of-service categories used in this analysis.

In order to classify services by type, two technical issues were addressed. The first is that many revenue center trailers on the claim do not report HCPCS codes. This presents a problem because all analyses will use the type-of-service scheme, which depends on HCPCS codes. This problem is overcome by developing a crosswalk between the revenue center code and the **type-of-service** category. Thus for example, revenue center code 300 General Laboratory was classified in the laboratory tests type-of-service category; revenue center code 340 General Nuclear Medicine was categorized in the standard imaging type-of-service category; and so on.

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<sup>4</sup> Previous research (Miller and Sulvetta 1990) found that before the 1992 changes in HCPCS visit codes, medical visits in the HOPD were primarily reported using office visit codes and to a lesser extent, hospital visit codes. These two visit categories comprise routine visits.

The second technical issue is that surgical services are usually reported in more than one revenue center trailer. A surgery, for example, might have three revenue center trailers: anesthesia, operating room, and recovery room. **In** order to avoid over-counting surgery services, multiple revenue center trailers related to a single surgery service are counted as one service. HCFA Bureau of Policy Development (**BPD**) reimbursement methods were used to determine which trailers and revenue center codes are related to surgery.' Thus for the following hypothetical claims, the **first** would be counted as having three services and the second would be counted as having two:

Claim 1 -- Nonsurgery  
revenue center codes:  
510 Clinic  
300 Laboratory  
340 Nuclear Medicine

Claim 2 -- Surgery  
revenue center codes:  
310 Laboratory/Pathology  
360 Operating Room Services  
710 Recovery Room

One final point regarding data construction. With the exception of surgery, the revenue center code to type-of-service category crosswalk is straight-forward. Suppose for example, a surgery is reported using two revenue center trailers--operating room services and recovery room services--but neither trailer includes a HCPCS code. Unlike the other revenue center codes, the surgery revenue center codes are not descriptive enough to classify this surgery into one of the three specific type-of-service surgery categories noted above. Thus an unclassified surgery category was created for situations in which surgery services are reported without HCPCS codes.

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<sup>5</sup> HCFA payments to HOPDs for surgery are a blend of Ambulatory Surgery Center (ASC) rates and HOPD reasonable costs. Software is used to process HOPD facility bills which defines which revenue center code costs are allowable for computing HOPD reasonable costs.

### III. Distribution and Concentration of Services by Hospital Type

As noted above, hospital characteristics have been merged with the HOPD claims file. Four hospital characteristics of policy interest to Medicare will be examined. Three characteristics--teaching status, disproportionate share status, and urban/rural location--are used by Medicare's inpatient PPS to adjust payments. Although not used directly as a payment adjuster, bed size will also be examined. Bed size, a proxy for economies of scale and scope, is typically controlled for in analyses directed toward the development of payment adjusters by type of hospital. Thus with the type-of-service classification and the hospital characteristics data, surgery services as a percentage of total services provided can be compared for urban and rural hospitals, for example.

Hospitals grouped according to these characteristics are thought to be distinctive in terms of market characteristics and physician practice styles. For example, very large (hospitals with more than 350 beds) and urban hospitals serving a higher volume of patients may benefit from an economy of scale allowing them to offer high technology services that require large capital investments. Similarly, the practice style of physicians in rural areas is thought to be distinctive from those in urban areas. Rural physicians face a smaller, less concentrated market, and thus may have less access to new technologies and are less likely to be specialists. The patients of disproportionate share hospitals (hospitals serving a large percentage of poor Medicare beneficiaries and Medicaid **beneficiaries**<sup>6</sup>), are thought to require more intense treatment and special equipment and services because they receive less continuity of care and have lower health status. Teaching hospitals, because of their teaching function, are thought to order more tests and other services in the process of training interns and residents, to provide more high technology and advanced procedures, and to attract **more** complex patients.

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<sup>6</sup> A hospital's disproportionate share percentage is derived based on the percentage of Medicare inpatient days attributable to Federal Supplemental Security Income Medicare beneficiaries and the percentage of total inpatient days attributable to Medicaid beneficiaries. The **disproportionate share percentage required** to receive **disproportionate share** payments varies according to bed size, urban/rural **location**, and sole community hospital status.

Many of these hospital types overlap. For example, a major teaching hospital **is also** likely to be a disproportionate share and an urban hospital. Consequently, findings that are **true** of one hospital type may also be true of another. **In** addition to these four hospital types, **variations in** HOPD service use will also be explored by region. Regional variations in service use might be due to differences in practice style and in the organization of service supply.

**Teaching Status.** The most striking outcome in Table 1 is that nationally, 55 percent of Medicare services provided in the HOPD are diagnostic tests.’ Somewhat surprisingly, there is very little variation in this component by teaching status. Between 55 and 56 percent of services provided in teaching and nonteaching hospitals alike are diagnostic tests.

Nationally, visit and imaging services account for 13 and 15 percent of HOPD services, respectively whereas surgery services account for about 6 percent of services. Figure 1 shows that there are substantial variations in the distribution of these services within the hospital by teaching status--particularly with respect to major teaching hospitals. Visit services account for between 11 and 13 percent of all services in nonteaching and minor teaching hospitals. This is in sharp contrast with major teaching hospitals where visits account for 21 percent of services. This difference in visit services is accounted for by routine (i.e., clinic) visits which account for 15 percent of major teaching hospital services as compared with 4 and 1 percent in minor teaching and nonteaching hospitals, respectively. Emergency, specialist, and other visits account for lower proportions of services in major teaching hospitals relative to nonteaching and minor teaching hospitals.

Figure 1 clearly indicates that the trade-off in major teaching hospitals is to provide a greater proportion of visit services and lower proportions of imaging and surgery services. About 16 percent of services in nonteaching and minor teaching hospitals are imaging services as

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‘This **finding** is **cousisteut** with previous **research**. Dubay and Sulvetta (1990) **fofmd** that **40 percent** of visits were for ancillary services (i.e., laboratory and radiology) only. **They** concluded **that** “referred ancillary” services (i.e., physicians referring patients to the HOPD for diagnostic testing) **comprise** a major component of HOPD services to Medicare beneficiaries.



compared with 10 percent in major teaching. This difference is reflected in both standard and advanced unaging (see Table 1). Similarly, about 7 percent of the services in nonteaching and minor teaching hospitals are surgical as compared with about 4 percent in major teaching hospitals. Again this is reflected across all surgery service categories (i.e., ambulatory, endoscopy, eye, and unclassified). One **final** result is noteworthy--about 2 percent of major and minor teaching hospital services are dialysis and oncology as compared to about 1 percent for nonteaching hospitals.

The imaging and surgery results for major teaching hospitals **are** somewhat surprising. The inpatient facility cost literature would suggest that major teaching hospitals often handle cases of greater complexity and, given their teaching function, are more likely to have the latest technologies. Consequently one might have expected greater proportions of surgery and imaging services, particularly advanced imaging. Furthermore, given the teaching function, one might expect greater proportions of diagnostic testing and imaging services. However, relative to nonteaching and minor teaching hospitals, the distribution of services in major teaching hospitals is skewed toward routine medical care. On the other hand, major teaching hospitals do appear to provide more dialysis and oncology services. Some of the explanation for these results may lie in more fully understanding the role played by major teaching **HOPDs** in Medicare. Major teaching hospitals are likely to be large, often public hospitals located in urban areas serving a disproportionate number of the poor. In their communities, major teaching hospitals may be the source of basic care for poor Medicare beneficiaries. If this is true we should see many of these same patterns when disproportionate share hospitals are examined.

Table 1 and Figure 2 report the concentration of HOPD services across teaching and nonteaching hospitals types. Nationally, 56 percent of services are provided in nonteaching hospitals, 32 percent are provided in minor teaching hospitals, and 12 percent are provided in major teaching hospitals.<sup>8</sup> The concentration of a given service by hospital type varies from this

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<sup>8</sup> A note on the **interpretation** of Figure 2: If the **concentration** of each type-of-service category across hospital types were exactly consistent with the overall concentration of services, each of the shaded areas (representing hospital types) would align with the markers indicating the overall percentage of services provided by hospital type. Thus, in Figure 2, the shaded areas on the bar representing tests very closely align with the overall percentage

national baseline consistent with the above findings. Major teaching hospitals account for 20 percent of all visit services provided to Medicare beneficiaries. This disparity in the proportion of visits provided is driven by routine visit services where major teaching hospitals account for 51 percent of all visit services provided. Nonteaching hospitals provide a greater proportion of all emergency/critical care visits (63 percent) and other visits (61 percent) whereas minor teaching hospitals provide a greater share of all specialist visits (38 percent). Consistent with the analysis presented above, imaging and surgery services are less concentrated in major teaching hospitals than might be expected--8 and 7 percent of imaging and surgery services, respectively, are accounted for by major teaching hospitals. Standard imaging is more highly concentrated in nonteaching hospitals (61 percent). Finally, dialysis and oncology services are more highly concentrated in minor (44 percent) and major (19 percent) teaching hospitals.

**Disproportionate Share Status.** Medicare designates hospitals serving large numbers of poor Medicare beneficiaries, Medicaid beneficiaries, and the uninsured as “disproportionate share” hospitals. One might expect that disproportionate share hospitals treat patients of greater complexity given that they are of poor health status and less likely to have continuity of care. Lower health status and less continuity of care might be expected to result in greater proportions of surgery (neglected illnesses requiring more aggressive interventions) and diagnostic testing (which would be reflected in laboratory and other tests as well as imaging services). However, there is considerable overlap between teaching status and disproportionate share status--77 percent of major teaching hospitals receive disproportionate share payments and teaching hospitals as a group account for 65 percent of such payments (Shiengold 1990). Consequently, the disproportionate share status results should parallel the teaching status results, and this is generally true. Disproportionate share hospital **HOPDs** appear to play a special role in their communities by providing basic visit services.

Table 2 and Figure 3 report the service distribution results comparing disproportionate share and nondisproportionate sham hospitals. Like major teaching hospitals, the service mix in

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markets. But the bar representing visits shows that these **services** are more heavily concentrated in major teaching hospitals.

disproportionate share hospitals is skewed toward visits and away from surgery and imaging--but the difference is not as dramatic. A greater proportion of the services in disproportionate share hospitals are visit services ( 16 percent) as compared with nondisproportionate share hospitals (11 percent). This difference is almost entirely reflected in routine visit services which account for 7 percent of services in disproportionate share hospitals but only 2 percent in nondisproportionate share hospitals (see Table 2). Imaging (14 percent) and surgery (5 percent) services account for smaller proportions of disproportionate share hospital services as compared to nondisproportionate share hospitals (16 and 7 percent, respectively). These differences are consistently reflected in each of the individual imaging and surgery service categories. Disproportionate share hospitals also have lower proportions of testing services (53 percent) than nondisproportionate sham hospitals (56 percent) and this difference is accounted for by laboratory testing (51 and 48 percent, respectively), as opposed to other diagnostic testing. Finally, disproportionate share hospitals have a slightly greater proportion of dialysis and oncology services (2 percent) relative to nondisproportionate share hospitals (1 percent).

Table 2 and Figure 4 report the concentration of services across disproportionate share and nondisproportionate share hospitals. Nationally, nondisproportionate share hospitals provide 7 1 percent of all services while disproportionate share hospitals provide 29 percent of all services, but there are some marked deviation from this national pattern by type-of-service category. Disproportionate share hospitals provide about 37 percent of all visit services. The remarkable result for visit services is that 61 percent of all routine visit services for Medicare beneficiaries are provided in disproportionate share hospitals. This point is worth underscoring--disproportionate share hospitals account for about 22 percent of all Medicare hospitals and, as mentioned, about 29 percent of all Medicare HOPD services, but provide 61 percent of all routine visit services. Two other results **are** noteworthy. Disproportionate share hospitals provide slightly lower proportions of surgery services (approximately 25 percent) and somewhat greater proportions of dialysis and oncology services (about 35 percent) than expected.

**Urban and Rural Location.** The distribution of HOPD services within urban and rural hospitals is reported in Table 3 and Figure 5. The pronounced differences in the distribution of

services provided by teaching and disproportionate share hospitals and their counterparts are not reflected here where urban and rural hospitals are compared. Visit services account for 13 percent of all services in urban hospitals as compared with 11 percent in rural hospitals. Again, the biggest difference between urban and rural hospitals is for routine visits which account for about 4 percent of services in urban hospitals and about 1 percent in rural hospitals. Imaging services account for similar proportions of services in urban and rural hospitals (about 15 percent). Surgery services account for a greater proportion of urban hospitals services (6.5 percent) than of rural hospital services (5.4 percent). This appears to be the case across all four surgery categories (ambulatory/minor; endoscopy; cataract/lens/eye; and unclassified). Somewhat surprisingly, diagnostic testing accounts for slightly less of the services provided in urban hospitals (about 54 percent) as compared to rural hospitals (about 57 percent). This might suggest that HOPDs in rural areas serve as the only “laboratory” for physicians to refer patients for diagnostic testing. In urban areas, physician may have more options--office-based testing, independent laboratories, and the HOPD. Finally, as might be expected, dialysis and oncology services account for a greater proportion of services in urban hospitals (1.7 percent) than in rural hospitals (0.7 percent).

Table 3 and Figure 6 report the concentration of services across urban and rural hospitals. Overall, urban hospitals provide about 74 percent of all HOPD services while rural hospitals provide 26 percent of services. There are some variations from this baseline consistent with the distributional analysis. Urban hospitals provide 77 percent of all visit services, providing the overwhelming majority of all routine visits (90 percent) and of all specialist/consultation visits (81 percent). The concentration of imaging services overall in urban (74 percent) and rural (26 percent) hospitals is consistent with the expected overall distribution. But, not surprisingly, urban hospitals provide slightly more (about 78 percent) of the advanced imaging services received by Medicare beneficiaries. Urban hospitals also provide a greater proportion of Medicare’s HOPD surgical services (77 percent); this is true across each of the surgical service categories.

The concentration of diagnostic testing services between urban and rural hospitals is interesting. The concentration of diagnostic testing services (27 percent rural; 73 percent urban)

approximates the overall concentration of services (26 percent rural; 74 percent urban). However, urban hospitals provide a greater proportion (79 percent) of other diagnostics tests (e.g., electrocardiography) than suggested by the baseline. Finally, dialysis and oncology services are disproportionately provided by urban hospitals (87 percent).

**Bed Size.** Table 4 and Figure 7 present the distribution of services by hospital bed size. For presentation purposes hospitals are categorized into three bed sizes: small (100 beds or less); medium (101-350 beds); and large (351 beds or more). Given the preceding discussion of major teaching and disproportionate share hospitals, it is not surprising to **find** that a greater proportion of the services provided by large hospitals are visits, particularly routine medical visits. About 7 percent of large hospital services are for routine visits as compared to 3 and 2 percent of services in medium and small hospitals, respectively. Also similar to the teaching/disproportionate share hospital results, imaging services account for a smaller proportion of services in large hospitals. This is because a smaller proportion of services in large hospitals (about 11 percent) are comprised of standard imaging services, as compared to small and medium (about 13 percent) hospitals. Surgery services, however, account for greater proportions of services in both medium (7 percent) and large (6 percent) hospitals as compared to small hospitals (5 percent). As expected, dialysis and oncology services comprise greater proportions of the services provided in medium (about 1 percent) and large hospitals (about 3 percent) than in small hospitals (.25 percent).

Diagnostic testing services present an interesting case. About 59 percent of the services provided in small hospitals are diagnostic tests, compared with about 54 percent of services in medium and large hospitals. However, **the** pattern varies depending on the type of testing service. Laboratory tests account for about 55 percent of small hospital services as compared with about 49 percent in medium and large hospitals. But other diagnostic tests (e.g., cardiovascular stress tests) account for greater proportions of the services in medium and large hospitals (about 5 percent) when compared to small hospitals (about 4 percent).

The concentration of services in Table 4 and Figure 8 indicates that small hospitals account for 22 percent of all Medicare HOPD services and that medium and large hospitals account for 54 and 23 percent, respectively. Routine visit services are disproportionately accounted for by large hospitals (46 percent). Medium and large hospitals account for a greater proportion of the HOPD specialist and consultation services (60 and 27 percent, respectively) than expected. Standard imaging services tend to be slightly more concentrated in small and medium hospitals (23 and 57 percent, respectively), whereas advanced imaging services tend to be more concentrated in medium hospitals (60 percent). Similarly, surgery services are disproportionately concentrated in medium hospitals (between 58 and 62 percent). The concentration of laboratory tests reflects the expected distribution, but other diagnostics tests are slightly more concentrated in medium and large hospitals (57 and 25 percent, respectively). Finally, dialysis and oncology are overwhelmingly provided in medium (53 percent) and huge (43 percent) hospitals with large hospitals accounting for considerably more of these services than the national baseline would suggest.

**Region.** Table 5 and Figure 9 report the distribution of HOPD services within hospitals by region. One might expect variations in service distributions to be **more** dampened when examined by region given the level of aggregation. On the contrary, some interesting variations emerge that may reflect differences in medical practice patterns across the country. Visit services as a percentage of all services range from 11.4 percent in the East North Central region to 15.2 in the Mountain region. But this obscures even greater variations observed for specific visit services. Routine visit services account for a greater percentage of services in New England (5.2 percent), and Mountain (4.7 percent) hospitals and substantially lesser proportions of services in East South Central (2.1 percent), and West South Central (2.3 percent) hospitals. Emergency/critical **care** visits account for 4.8 percent of Medicare HOPD services nationally, but account for substantially greater proportions in East South Central (7 percent), **South** Atlantic (5.8 percent), West South Central (5.7 percent), and Pacific (5.7 percent) region hospitals.

Imaging services **are** about 13.5 percent of all services in New England and Middle Atlantic **HOPDs**, but over 17 percent of services in South Atlantic and East South Central

HOPDs. (This variation is largely driven by standard imaging services which range from nearly 14 percent of services in South Atlantic (13.8 percent) and East South Central (13.9 percent) HOPDs to 10.9 percent in New England HOPDs.) Surgery services comprise a lesser proportion of the services in New England (4.8 percent) and Middle Atlantic (4.9 percent) hospitals and a greater proportion of the services in South Atlantic (7.0 percent), West North Central (7.7 percent), and West South Central (8.0 percent) hospitals. Finally, testing services as a proportion of all services vary **from** 47.8 percent in the East South Central region to 62.1 percent in the Middle Atlantic region. (The variation is most pronounced for laboratory tests which range from a high of 57.5 percent in Middle Atlantic hospitals to a low of 42.8 percent in East South Central hospitals.).

Turning to the concentration of services across regions in Table 4 (no Figure presented), the West North Central, Mountain, and Pacific region hospitals account for 8.1, 4.3, and 9.5 percent of all HOPD services, respectively. The concentration of services in each type-of-service category roughly approximates (within 2 percentage points) the overall concentration of services in these three regions. By way of contrast, the Middle Atlantic region accounts for 18.3 percent of all HOPD services, but demonstrates notable **variations** by type of service. Middle Atlantic HOPDs provide 22.4 percent of all visit services and 21 .0 percent of all laboratory tests. At the same time, Middle Atlantic hospitals provide considerably lower proportions of advanced imaging services (14.7 percent) and surgery services (14.5 percent) than might be expected.

Substantial variations in the concentration of services relative to the overall concentration are demonstrated in five other regions. New England hospitals provide 7.5 percent of all HOPD services but markedly greater concentrations of routine visits (11.2 percent) and dialysis/oncology services (9.5 percent) and lesser proportions of surgery services (5.7 percent), particularly unclassified surgery (5.0 percent). South Atlantic hospitals provide 15.9 percent of all services but greater proportions of emergency/critical care visits (19.2 percent), surgery services, particularly endoscopy (18.6 percent) and unclassified surgery (18.7 percent) and lesser proportions of routine visits (12.7 percent). Twenty-two percent of all HOPD services are provided by East North Central hospitals but substantially greater proportions of

ambulatory/minor surgery (24.4 percent) and lesser proportions of emergency/critical care visits (16.8 percent), cataract/other eye surgery (19.9 percent). East South Central hospitals account for 6.1 percent of all HOPD services but account for substantially fewer routine (3.7 percent) and specialist/consultation visits (3.9 percent) and substantially more of emergency/critical care visits (8.8 percent). Finally, 8.1 percent of HOPD services are provided by West South Central hospitals but these hospitals account for lesser proportions of routine visits (5.5 percent) and greater proportions of surgery, particularly cataract/eye procedures (11.7 percent) and unclassified surgery procedures (11.6 percent).

#### IV. Variations in Utilization by Hospital Type

The next question to analyze is whether there **are** variations in the numbers of services per patient provided by hospital type. For example, does one class of hospital appear to routinely provide more diagnostics testing services? There are a few caveats to note. First, there is no control for **casemix** present in this analysis and some of the differences between hospital types will reflect differences in patient mix. Bear in mind however that variations in **casemix** by hospital type will differ from what one might expect to **find** when inpatient services are considered. Most importantly, previous research (Miller and Sulvetta 1992) has found that HOPD **casemix** in major teaching hospitals is lower than in minor teaching and nonteaching hospitals and that **casemix** in disproportionate share hospitals is lower than that in nondisproportionate share hospitals. Table 6 reports Medicare HOPD **casemix** values by hospital type from this previous research. Second, **finding** large differences in services per patient might suggest some responsibility on the part of the hospital. But it is important to bear in mind that hospitals do not direct patient treatments, physicians do. Ultimately the utilization of services by patients at the hospital is the responsibility of the physicians with practice privileges at that hospital. Further clouding the issue of responsibility are referred ancillary services--as noted earlier, these are diagnostic testing and imaging services for patients referred to the HOPD by an office-based physician. Previous research (**Dubay** and Sulvetta 1990) has indicated that approximately 40 percent of HOPD visits are for referred ancillary services.



There is also a caveat regarding unduplicated counts of beneficiaries. Table 7 reports an average of 9.32 units of service per beneficiary in 1990; this figure is based on an unduplicated count of beneficiaries. However, during the course of a year a given beneficiary can visit more than one hospital type. For example, in the tables that analyze utilization by urban and rural location, a beneficiary who visits both an urban and rural hospital during the year will be reflected in both sets of utilization figures. **This** means that the count of “beneficiaries” will increase; in fact it increases from 728,028 to 893,025. Using this latter figure, which we will refer to as “patients” rather than “beneficiaries”, we see in Table 7 that an average of 7.60 HOPD services were provided per patient. In the following tables comparing utilization rates by hospital type, the per patient figures will be used. Although the overall level of use is lower, the relative use by type of service should not be distorted--the reduction in use is constant across types of services and the two measures are highly correlated ( $r=.99$ ).

**Teaching Status.** Table 8 and Figure 10 show that, relative to their counterparts, major teaching hospitals provide substantially more services per patient (9.5 versus about 7.4). Major teaching hospitals provide more of three types of service--visits, tests, and dialysis/oncology services. The greater number of visits is primarily reflected in routine visits where major teaching hospitals provide 1.4 per patient as compared with **.28** and **.07** in minor teaching and nonteaching hospitals, respectively. Major teaching hospitals provide 5.4 tests per patient as compared with about 4 per patient provided by its two counterparts. Finally, major teaching hospitals provide **.21** dialysis/oncology services per patient as compared with **.15** in minor teaching hospitals and **.07** in nonteaching hospitals.

**Disproportionate Share Status.** Table 9 and Figure 11 indicate only a small difference between the number of services provided per patient in disproportionate share hospitals (7.8) as compared with nondisproportionate share hospitals (7.5). The only marked difference in utilization rates between the two hospitals types is for visit services (1.29 per patient in disproportionate share hospitals versus **.85** in their counterparts). This high rate of visit services is driven entirely by the difference in routine visits per patient (**.58** in disproportionate share hospitals and **.14** in nondisproportionate **share** hospitals). Disproportionate share hospitals appear

to provide slightly fewer imaging and surgery services per patient and slightly more testing services per patient.

**Urban and Rural Location.** Surprisingly, Table 10 and Figure 12 indicate that urban hospitals provide fewer services per patient (7.5) than rural hospitals (8.0). The greater number of services provided by rural hospitals appears to be largely accounted for by testing services (4.6 rural; 4.1 urban) and, more precisely, laboratory tests (4.3 rural; 3.7 urban). Rural hospitals appear to provide slightly more standard imaging services per patient (1.0) than urban hospitals (.9). Urban hospitals on the other hand, provide greater numbers of routine visit services (.32 urban; .10 rural), slightly more surgery services (.49 urban; .43 rural) and substantially more dialysis/oncology services (.13 urban; .05 rural) per patient.

**Bed Size.** Consistent with the urban/rural location results, Table 11 and Figure 13 show that small hospitals (100 beds or less), provide more services per patient (7.9) than medium (101-350 beds) and large hospitals (350 beds or more) which provide 7.4 and 7.8 services per patient, respectively. Also consistent with the urban/rural results, we **find** that small hospitals provide substantially more diagnostic laboratory tests per patient (4.6) than either medium (4.0) or large hospitals (4.2). Other diagnostic tests are provided with greater frequency by medium (.39) and large (.42) hospitals as compared with small hospitals (.30). Small hospitals also provide markedly more standard imaging services per patient (1.01) than large hospitals (.84) and slightly more than medium hospitals (.96). Large hospitals provide substantially more routine visit services per patient (.54) than either medium (.20) or small hospitals (.13). Finally, as expected dialysis/oncology services are provided with greater frequency as the size of the hospital increases (.02 small; .10 medium; and .20 large).

**Region.** Table 12 (no accompanying Figure) shows that New England (8.58) and East North Central (8.46) hospitals provide the greatest number of services per patient whereas Pacific (6.75) and South Atlantic (6.92) region hospitals provide the fewest. Two types of services, routine visits and laboratory tests, seem to most consistently be associated with a region's overall utilization patterns. New England, Middle Atlantic and East North Central hospitals have higher

than average utilization rates and each of these regions has laboratory test utilization rates (**4.67**, **4.75**, **4.50**, respectively) that substantially exceed the U.S. mean (3.82). Although not as consistently, routine visit services also seem to be associated with the overall level of utilization. South Atlantic, East South Central and West South Central hospitals have lower overall utilization and provide substantially fewer routine visits per patient (.19, **.15**, and **.16**, respectively) than the mean hospital (**.26**).

The Mountain and Pacific regions **are** interesting cases. Both provide fewer services overall (6.97 Mountain; 6.75 Pacific; 7.60 U.S.). This lower provision of services seems to be reflected across virtually all service categories--imaging, tests and other services and to a lesser extent in surgery and visit services. At the same time the Mountain region actually provides more routine visits per patient (**.33**) than the U.S. average (**.26**). This outcome **could reflect** a difference in the organization of health service supplies in these regions. These regions could be characterized as having greater reliance on **HMOs** (which presumably could result in lower use) and a greater dispersion of services from the hospital to stand-alone facilities (e.g., ambulatory surgery centers, independent laboratories, imaging centers).

## V. Discussion

Nationally, about 55 percent of HOPD services provided to Medicare beneficiaries are for diagnostic testing. This percentage is largely consistent across hospital types ranging from 53 percent in disproportionate share hospitals to 59 percent in small (100 beds or less) hospitals? Consistent with this finding, the concentration of this service across hospital types does not demonstrate large deviations from the overall distribution of services. In short, diagnostic testing represents well over half of what **HOPDs** do for Medicare patients, and since this seems to be true across all four hospital types examined, there appear to be no gross distortions in the concentration of these services across hospital types.

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<sup>9</sup> The variation is more extreme when examined by region; **the** regional results will be discussed separately,

The **implications** of the diagnostic testing finding for an HOPD PPS are unclear. On the one hand, prospectively paying for diagnostic testing services will capture much of the services provided by HOPDs and should not result in gross distributional impacts across hospital types or regions. However, this suggests that the overall impact of an HOPD PPS may be sensitive to the reimbursement levels set for diagnostic testing services. Furthermore, there is an issue of control over these services. Dubay and Sulvetta (1990) suggest that an HOPD can serve, for all practical purposes, as an independent diagnostic testing center. That is, patients **are** referred from local physician **offices** to the HOPD for a visit that includes a laboratory or radiology testing services only.<sup>10</sup> Thus the impact of an HOPD PPS on these services also depends on *how these* services are reimbursed. For example, like the Medicare physician fee schedule, certain minor services may be deemed to be reimbursable only as part of a medical visit.

The second major finding from this **analysis** relates to the role of major teaching and disproportionate share HOPDs. The inpatient literature suggests that because major teaching hospitals train interns and residents and because they attract more complex cases, they engage **in** more diagnostic testing, and imaging, are more likely to have the latest technologies, and are more likely to employ advance procedures. Disproportionate share hospitals are also thought to behave like major teaching hospitals because they attract patients of lower health status who lack continuity of care. Furthermore, as noted above, these two characteristics often overlap in the **same** hospital. If one assumed the inpatient characteristics of these hospitals to the HOPD, one might expect the HOPDs in these hospitals to provide more complex, treatment oriented services (e.g., surgery) as opposed to less complex, routine services (e.g., medical visits), and more diagnostic testing and imaging services, particularly high technology diagnostic services.

The analysis presented here shows that major teaching and disproportionate share hospitals have very different roles in the inpatient and outpatient settings. Major teaching and disproportionate share HOPDs provide substantially greater amounts of low complexity, routine medical **care**, suggesting that their role is oriented to providing basic care in the communities

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<sup>10</sup> In contrast, to bring a patient to the HOPD for surgery a physician must have "admitting" privileges at the HOPD and must compete with other physicians to schedule surgeries.

where they are located. Routine visit services in these two **hospital** types account for substantially more of all services (15 percent major teaching; 7 percent disproportionate share) than the average hospital (3.5 percent). This focus on providing routine care is also reflected in the concentration of services. Major teaching hospitals provide 12 percent of all services but 51 percent of all routine visits while disproportionate share hospitals provide 29 percent of all services but 61 percent of all routine visits. Consistent with this conclusion, previous research shows that these two hospital types have lower average HOPD **casemix**.

The policy implications of these results are that major teaching and disproportionate share hospitals are more heavily vested in providing routine care. This means that the PPS impact on visit services in general and routine visits in particular will be critical to these hospitals. Moreover, because these two hospital types provide the overwhelming majority of these services, inadequate reimbursement for these services could threaten access. Given that these hospitals are often located in poor, urban communities, the issue of access warrants attention. At the same time, lucratively reimbursing these services could encourage the further concentration of these services in these hospitals and induce volume (particularly if the PPS is visit based). Imaging and surgery services are slightly more concentrated in nonteaching, minor teaching, and nondisproportionate share hospitals. This suggests that changes in reimbursement for these services will have greater effects on these three hospital types.

This also raises an issue regarding PPS-like payment adjustments for teaching and disproportionate share hospitals under an HOPD PPS. These results suggest that within a given teaching or disproportionate share hospital, the HOPD and inpatient roles differ. The HOPD seems to provide routine care; whereas the inpatient side of these hospitals provides more complex, technology-oriented care. Given that the HOPD care provided in these hospitals is skewed toward routine care, positive payment adjustments may not be necessary. Previous research bears this point out in part. A cost function analysis (Miller and Sulvetta 1992) found that when all services were considered, disproportionate share hospitals had below average costs (suggesting a negative adjustment) while teaching hospitals had above average costs (suggesting a positive adjustment). This outcome may be explained by the fact that while the service mix in

both types of hospitals is skewed toward routine care, teaching hospitals provide substantially more services per patient, particularly visits and tests.

Urban and large (350 beds or more) hospitals appear to be more heavily vested in oncology and dialysis services, as might be expected. Dialysis and oncology services account for 1.4 percent of all services in the average HOPD. These services account for about 1.7 percent of services in urban hospitals and 2.6 percent of services in large hospitals. This is reflected in the concentration of services across hospital types. Urban hospitals provide 87 percent of these services and large hospitals provide 43 percent of these services. Again, changes in reimbursement for these services will have their greatest impact on urban and large hospitals.

Given the above discussion regarding the composition of HOPD services in major teaching and disproportionate share hospitals, it is not surprising to **find** that these two hospital types provide more routine visits per patient (1.41 and **.58**, respectively) than the average HOPD (**.26**). Somewhat surprising given the discussion above, is that major teaching hospitals also provide substantially more diagnostic tests per patient (5.4) than their counterparts (4.0 minor teaching; 4.1 nonteaching) or the average HOPD (4.19). It would appear that at least some of the hypothesized effect of the teaching function are reflected in the HOPD. However, if these higher diagnostic testing rates are attributable to the teaching function, it is surprising not to **find** it reflected in imaging services (which include diagnostic imaging), where major teaching **HOPDs** provide fewer standard and advance imaging **services** than their counterparts. Rural hospitals provide slightly more diagnostic testing services per patient (4.57) than urban hospitals (4.07). This might indicate that **rural** hospitals more often serve as the **referral** laboratory in **their** communities, whereas in urban areas, physicians have more choice between office-based laboratories, independent laboratories, and **HOPDs**.

The analysis of regional variations warrants separate comment. Examining the distribution of services within the hospital by region shows some pronounced variations. New England and Middle Atlantic hospitals are oriented more toward visits and tests and away **from** imaging and surgery relative to other regions. New England, Middle Atlantic, and East North

Central hospitals are oriented more toward diagnostic testing than hospitals in other regions. South Atlantic, East South Central, West North Central, and West South Central are oriented more toward imaging and surgery and less toward testing. Finally, Mountain and Pacific region hospitals appear to emphasize visit and imaging services at the expense of surgery and testing.

Focusing on some of the services highlighted above, routine **visits** range from 2.1 percent of services in East South Central hospitals to 5.2 percent in New England hospitals. Emergency/critical care visits range from 3.4 percent of services in East North Central hospitals to 7.0 percent of services in East South Central hospitals. Surgery services range from 4.8 percent of services in New England hospitals to 8.0 percent of services in West South Central hospitals. Finally, diagnostic testing ranges from 47.8 percent in East South Central hospitals to 62.1 percent of services in Middle Atlantic hospitals. The analysis of utilization by region shows only a few marked variations. New England hospitals provide substantially more visits services per patient than other regions. New England and Middle Atlantic hospitals provide more diagnostic testing services per patient than other regions.

These results are likely to reflect differences in practice **patterns**, as well as differences in the organization of service supply across regions. For example, ambulatory surgery centers (**ASCs**) are concentrated in the south and west, and ambulatory/minor surgery as a percentage of services in southern and western region hospitals tend to be lower than in other regions. The dispersion of services from the hospital to other **free-standing, specialized** facilities (e.g., imaging centers, dialysis centers, independent laboratories) is also likely to vary **by** region.

The policy implications of the regional analysis are twofold. **First**, the mix of services within **HOPDs** varies markedly by region. Thus if payments under a PPS **are** set inappropriately high or low for selected types of service, the relative gains and losses will vary by region. For example, if visit services were under- or over-paid, New England hospitals would be most directly affected. These affects could be dampened by a using a transition period from the current system to national prospective payment rates. During this transition, PPS rates could reflect regional and U.S. averages (or, like PPS, reflect hospital-specific, regional, and national

averages). Second, one important factor in the regional variations observed here may be the organization of health services supplies. While this analysis has addressed the current distribution, concentration, and utilization of services in the HOPD, it has not addressed these patterns in competing sites of care. A change in HOPD payment which is not coordinated with payment in competing sites of care (e.g., **ASCs**, independent laboratories) could result in shifts in the location of services. These shifts may have distributional consequences by hospital type and region to the extent that certain services are more easily shifted to other sites of care and to the extent that there are regional variations in the supply of competing sites of care.



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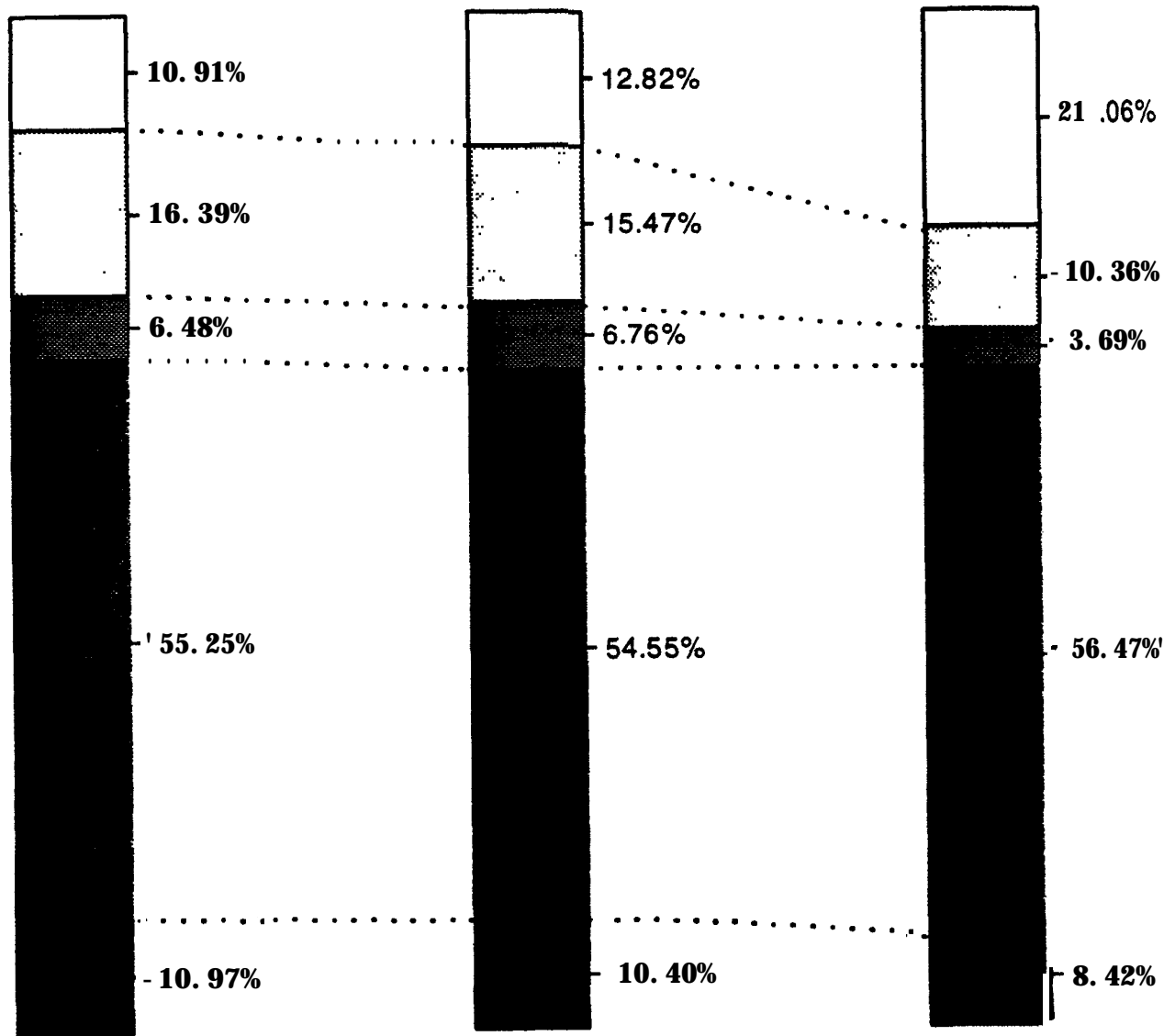
Table 1  
HOPD Services by Type of Service and Hospital Type:  
Teaching Status

Distribution of OPD Services Within Hospital Type				
Type of Service	All Hospitals	Non Teaching	Minor Teaching	Major Teaching
visits	12.73%	10.91%	12.62%	21.06%
Routine Visits	3.47%	0.93%	3.73%	14.78%
Emergency/Critical Care	4.83%	5.39%	4.48%	3.09%
<b>Specialist/Consultations</b>	1.05%	0.94%	1.27%	1.00%
Other Visit	3.38%	3.65%	3.33%	2.19%
<b>Imaging</b>	<b>15.38%</b>	16.39%	15.47%	10.36%
Standard Imaging	12.44%	13.44%	12.20%	8.41%
Advanced Imaging	2.93%	2.95%	3.27%	1.95%
<b>Surgery</b>	<b>6.23%</b>	<b>6.48%</b>	<b>6.76%</b>	<b>3.69%</b>
Ambulatory/Minor	1.09%	1.10%	1.18%	0.79%
Endoscopy	1.08%	1.11%	1.22%	0.62%
Cataract/Lens/Other Eyes	0.77%	0.78%	0.88%	0.41%
Unclassified Surgery	3.30%	3.49%	3.48%	1.87%
<b>Tests</b>	<b>55.17%</b>	<b>55.25%</b>	<b>54.55%</b>	<b>56.46%</b>
<b>Lab Tests</b>	<b>50.19%</b>	<b>50.53%</b>	<b>49.03%</b>	<b>51.68%</b>
Other Tests	4.98%	4.72%	5.51%	4.78%
<b>Other</b>	<b>10.49%</b>	<b>10.97%</b>	<b>10.40%</b>	<b>8.42%</b>
Dialysis/Oncology	1.41%	0.93%	1.98%	2.20%
Other	9.08%	10.04%	6.42%	-6.23%
Percent of All Services	100%	100%	100%	100%
Sum of All Services	6,787,888	3,832,206	2,143,208	812,474

Concentration of OPD Services Across Hospitals					
Type of Service	All Hospitals	Non Teaching	Minor Teaching	Major Teaching	Number of Services
<b>Visits</b>	<b>100%</b>	<b>48.39%</b>	<b>31.80%</b>	<b>19.81%</b>	<b>663,936</b>
<b>Routine Visits</b>	<b>100%</b>	<b>15.08%</b>	<b>33.94%</b>	<b>50.98%</b>	<b>235,624</b>
Emergency/Critical Care	<b>100%</b>	<b>63.02%</b>	<b>29.32%</b>	<b>7.66%</b>	<b>327,709</b>
<b>Specialist/Consultations</b>	<b>100%</b>	<b>50.48%</b>	<b>36.10%</b>	<b>11.41%</b>	<b>71,375</b>
Other Visit	<b>100%</b>	<b>61.07%</b>	<b>31.18%</b>	<b>7.75%</b>	<b>229,228</b>
<b>Imaging</b>	<b>100%</b>	<b>60.17%</b>	<b>31.77%</b>	<b>8.06%</b>	<b>1,043,865</b>
Standard Imaging	<b>100%</b>	<b>60.96%</b>	<b>30.95%</b>	<b>8.09%</b>	<b>844,743</b>
Advanced Imaging	<b>100%</b>	<b>56.82%</b>	<b>35.21%</b>	<b>7.97%</b>	<b>199,122</b>
<b>Surgery</b>	<b>100%</b>	<b>56.66%</b>	<b>34.24%</b>	<b>7.08%</b>	<b>423,120</b>
Ambulatory/Minor	<b>100%</b>	<b>57.07%</b>	<b>34.21%</b>	<b>8.72%</b>	<b>73,826</b>
Endoscopy	<b>100%</b>	<b>57.70%</b>	<b>35.50%</b>	<b>6.80%</b>	<b>73,585</b>
Cataract/Lens/Other Eyes	<b>100%</b>	<b>57.34%</b>	<b>36.30%</b>	<b>6.35%</b>	<b>51,945</b>
Unclassified Surgery	<b>100%</b>	<b>59.84%</b>	<b>33.36%</b>	<b>6.80%</b>	<b>223,764</b>
<b>Tests</b>	<b>100%</b>	<b>56.54%</b>	<b>31.22%</b>	<b>12.25%</b>	<b>3,745,084</b>
Lab Tests	<b>100%</b>	<b>56.83%</b>	<b>30.84%</b>	<b>12.32%</b>	<b>3,407,164</b>
Other Tests	<b>100%</b>	<b>53.54%</b>	<b>34.96%</b>	<b>11.50%</b>	<b>337,920</b>
<b>Other</b>	<b>100%</b>	<b>59.07%</b>	<b>31.32%</b>	<b>9.62%</b>	<b>711,883</b>
Dialysis/Oncology	<b>100%</b>	<b>37.08%</b>	<b>44.29%</b>	<b>18.63%</b>	<b>95,871</b>
Other	<b>100%</b>	<b>62.49%</b>	<b>29.30%</b>	<b>8.21%</b>	<b>616,012</b>
Percent of All Services	100%	56.46%	31.57%	11.97%	
Sum of All Services	6,787,888	3,832,206	2,143,208	812,474	

Figure 1

# Distribution of OPD Services Within Hospital Type: Teaching Status



Non-Teaching      Minor Teaching      Major Teaching



Figure 2  
Concentration of OPD Services Across Hospital Type:  
Teaching Status

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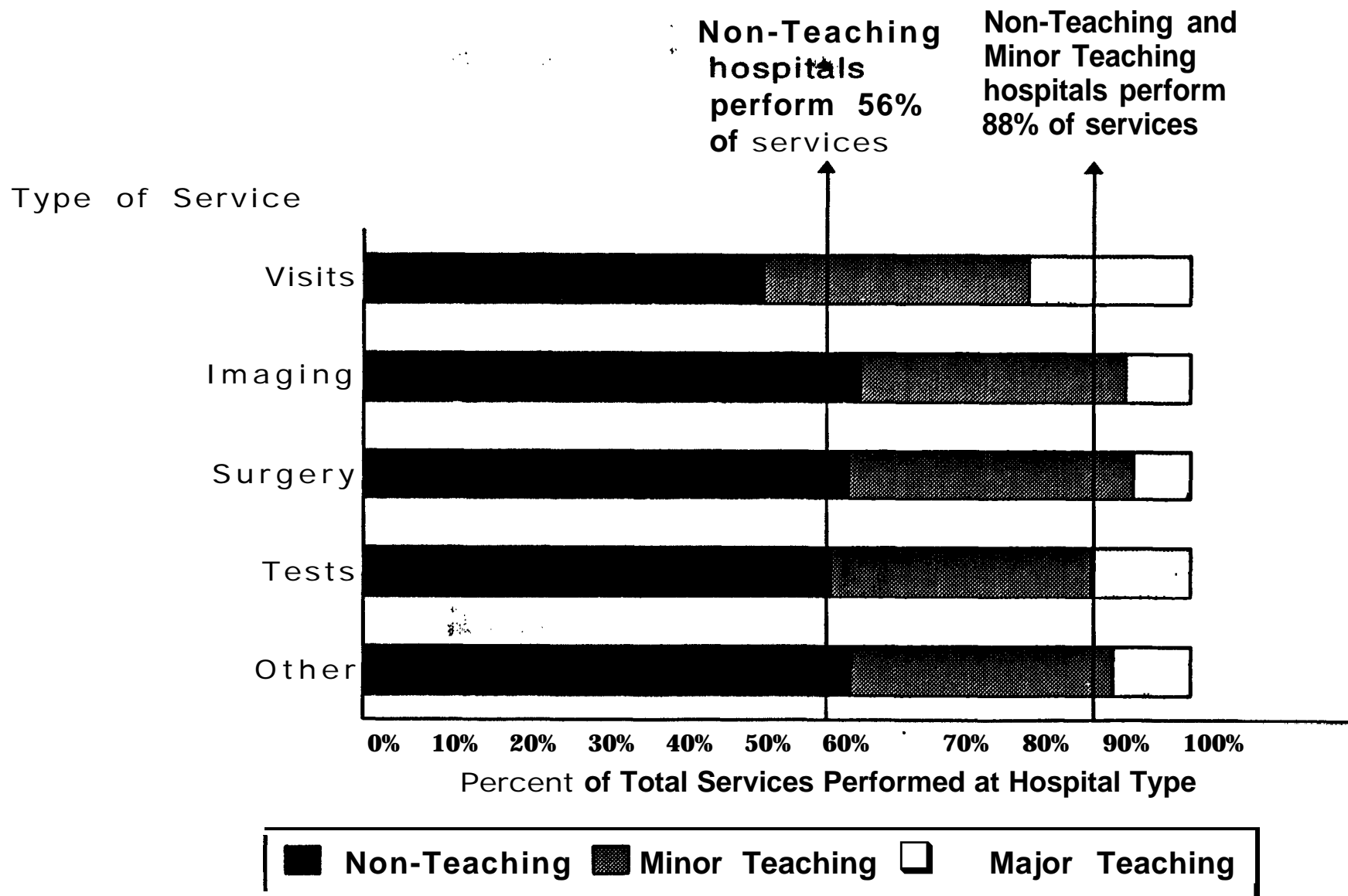


Table 2  
HOPD Services by Type of Service and Hospital Type:  
Disproportionate Share Status

Distribution of OPD Services Within Hospital Type			
Type of Service	All Hospitals	Non Disproportionate Share	Disproportionate Share
<b>Visits</b>	12.73%	<b>11.33%</b>	10.14%
Routine Visits	3.47%	1.92%	7.26%
Emergency/Critical Care	4.83%	4.81%	4.88%
Specialist/Consultations	1.05%	1.08%	0.99%
<b>Other Visit</b>	<b>3.38%</b>	<b>3.53%</b>	<b>3.01%</b>
<b>Imaging</b>	<b>15.38%</b>	<b>15.87%</b>	<b>14.18%</b>
Standard Imaging	12.44%	12.84%	11.47%
Advanced Imaging	2.93%	3.02%	2.71%
<b>Surgery</b>	<b>6.23%</b>	<b>6.58%</b>	<b>5.38%</b>
Ambulatory/Minor	<b>1.09%</b>	1.15%	<b>0.94%</b>
Endoscopy	1.08%	1.14%	0.95%
<b>Cataract/Lens/Other Eye</b>	<b>0.77%</b>	0.80%	0.67%
Unclassified Surgery	3.30%	3.49%	2.82%
<b>Tests</b>	<b>55.17%</b>	55.96%	63.25%
Lab Tests	50.19%	51.02%	48.18%
<b>Other Tests</b>	<b>4.98%</b>	4.94%	5.07%
<b>Other</b>	<b>10.49%</b>	<b>10.25%</b>	<b>11.06%</b>
Dialysis/Oncology	1.41%	1.30%	1.69%
<b>Other</b>	9.08%	8.96%	9.36%
Percent of All Services	100%	100%	100%
Sum of All Services	6,787,888	4,819,741	1,968,147

Concentration of OPD Services Across Hospital Type				
Type of Service	All Hospitals	Disproportionate Share	Disproportionate Share	Number of Services
<b>Visits</b>	<b>100%</b>	<b>63.23%</b>	36.77%	<b>863,936</b>
Routine Visits	100%	39.37%	<b>60.63%</b>	235,624
Emergency/Critical Care	100%	70.67%	<b>29.33%</b>	327,709
<b>Specialist/Consultations</b>	<b>100%</b>	<b>72.70%</b>	27.30%	71,375
<b>Other Visit</b>	<b>100%</b>	<b>74.15%</b>	<b>25.85%</b>	<b>229,228</b>
<b>Imaging</b>	<b>100%</b>	<b>73.27%</b>	<b>26.73%</b>	<b>1,043,865</b>
Standard Imaging	100%	<b>73.29%</b>	<b>26.71%</b>	<b>844,743</b>
<b>Advanced Imaging</b>	<b>100%</b>	<b>73.20%</b>	<b>26.80%</b>	<b>199,122</b>
<b>Surgery</b>	<b>100%</b>	<b>74.99%</b>	<b>25.01%</b>	<b>423,120</b>
Ambulatory/Minor	100%	<b>74.92%</b>	<b>25.08%</b>	<b>73,826</b>
Endoscopy	100%	74.70%	25.30%	73,585
Cataract/Lens/Other Eye	100%	74.57%	25.43%	51,945
Unclassified Surgery	100%	75.20%	24.80%	223,764
<b>Tests</b>	<b>100%</b>	<b>72.02%</b>	<b>27.98%</b>	<b>3,745,084</b>
Lab Tests	100%	72.17%	27.83%	<b>3,407,164</b>
<b>Other Tests</b>	<b>100%</b>	70.50%	29.50%	337,920
<b>Other</b>	<b>100%</b>	<b>69.43%</b>	<b>30.57%</b>	<b>711,889</b>
Dialysis/Oncology	100%	65.22%	34.78%	95,871
<b>Other</b>	<b>100%</b>	70.08%	29.92%	616,012
Percent of All Services	100%	71.01%	28.99%	
Sum of All Services	6,787,888	4,819,741	1,968,147	

Figure 3

## Distribution of OPD Services Within Hospital Type: Disproportionate Share Status

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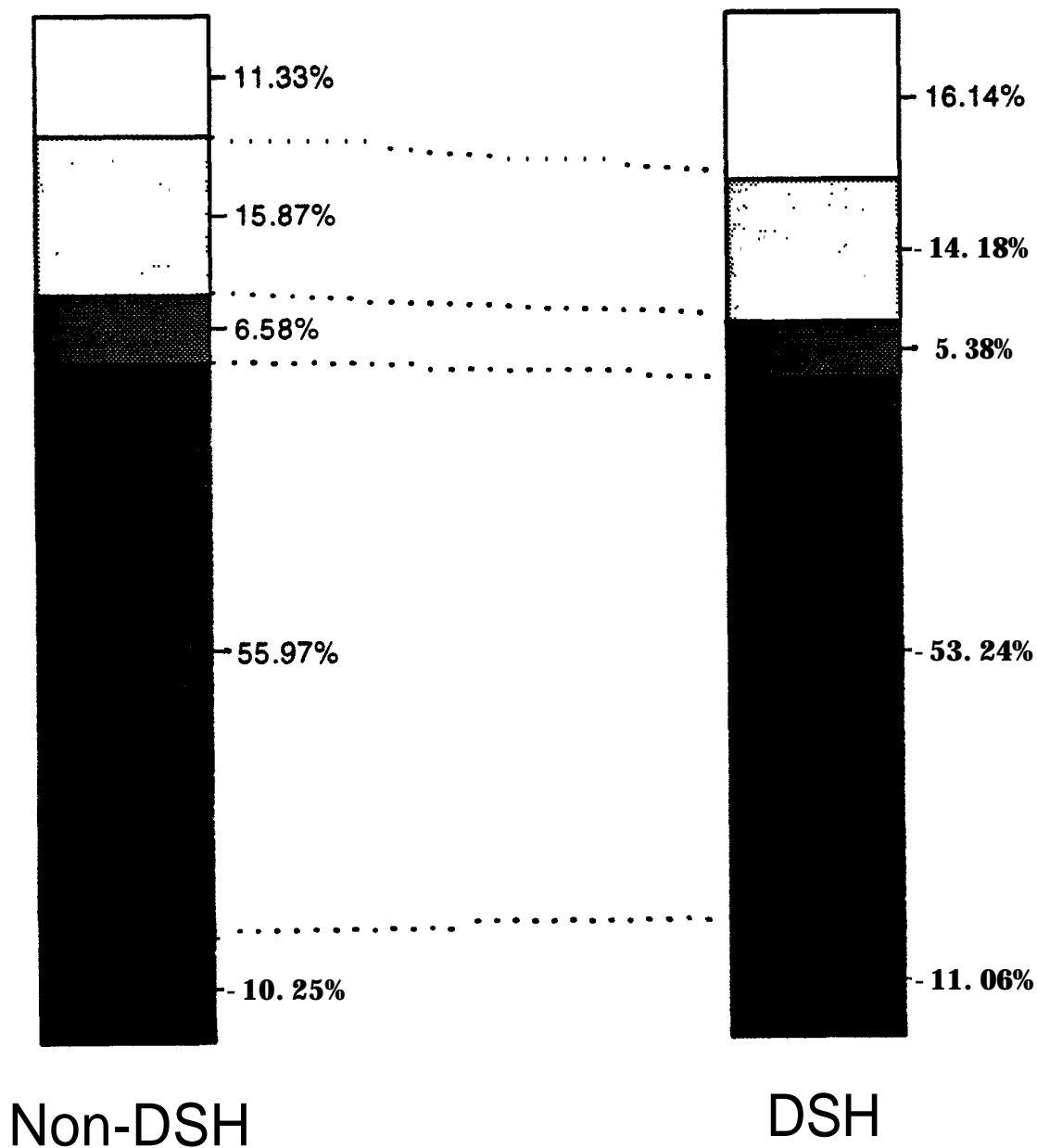


Figure 4

## Concentration of OPD Services Across Hospital Type: Disproportionate Share Status

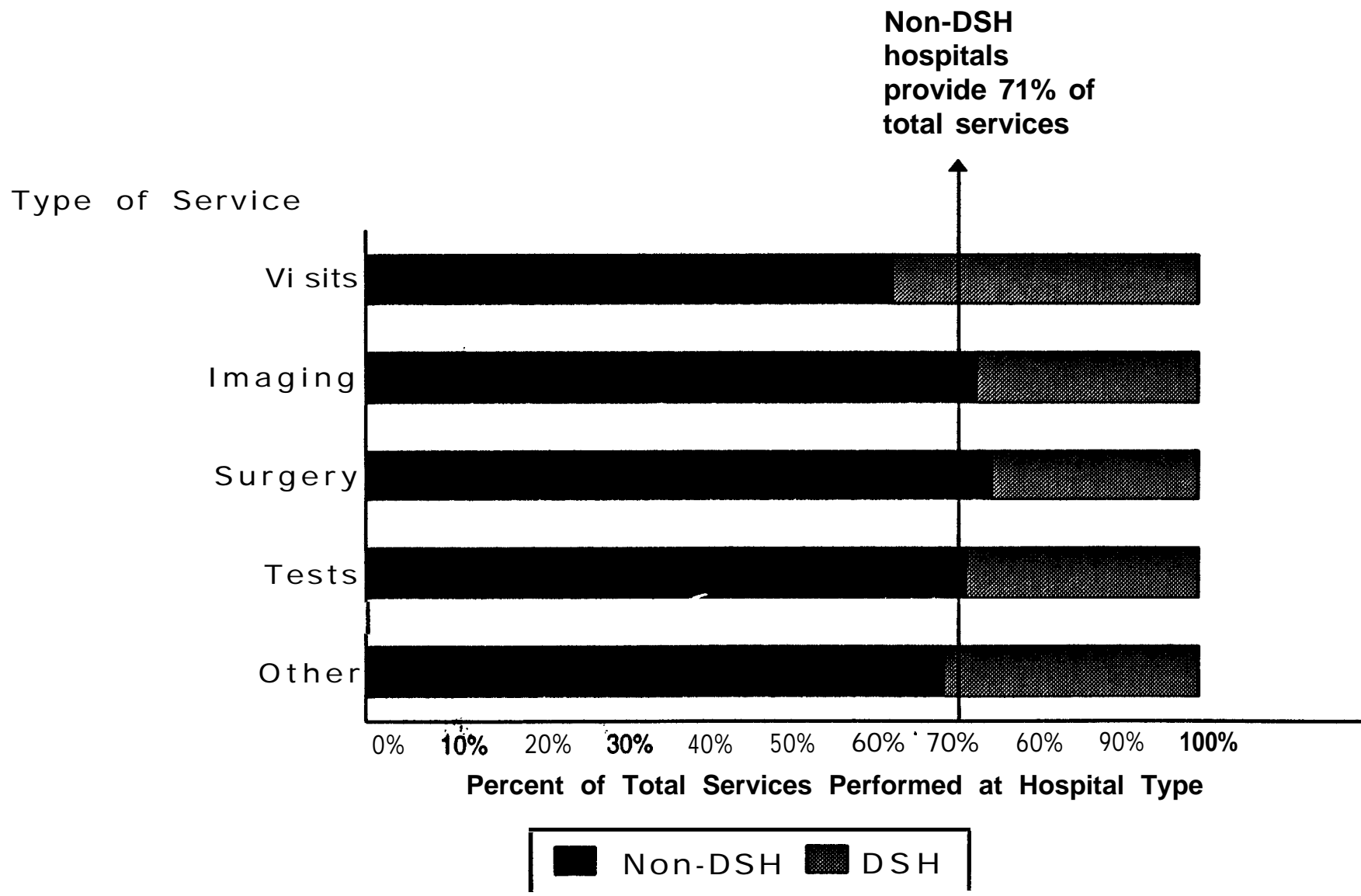


Table 3  
HOPD Services by Type of Service and Hospital Type:  
Urban and Rural Location

Distribution of OPD Services Within Hospital Type			
Type of Service	All Hospitals	Rural	Urban
<b>Visits</b>	12.73%	<b>11.05%</b>	13.33%
Routine Visits	3.47%	1.28%	4.26%
Emergency/Critical Care	4.83%	5.40%	4.62%
<b>Specialist/Consultations</b>	1.05%	0.74%	1.16%
Other Visit	3.38%	3.62%	3.29%
<b>Imaging</b>	<b>15.38%</b>	<b>15.39%</b>	<b>15.38%</b>
Standard Imaging	12.44%	12.93%	12.27%
Advanced Imaging	2.93%	2.46%	3.10%
<b>Surgery</b>	6.23%	5.36%	6.54%
Ambulatory/Minor	1.09%	0.91%	1.15%
Endoscopy	1.08%	0.86%	1.16%
<b>Cataract/Lens/Other Eye</b>	0.77%	0.59%	0.83%
Unclassified Surgery	3.30%	2.99%	3.41%
<b>Tests</b>	55.17%	57.28%	54.42%
Lab Tests	50.19%	53.22%	49.11%
Other Tests	4.98%	4.06%	5.31%
<b>Other</b>	<b>10.49%</b>	<b>10.90%</b>	<b>10.34%</b>
Dialysis/Oncology	1.41%	0.69%	1.67%
Other	9.08%	10.21%	8.67%
Percent of All Services	100%	100%	100%
Sum of <b>All Services</b>	<b>6,787,888</b>	<b>1,793,216</b>	<b>4,994,672</b>

Concentration of OPD Services Across Hospital Type				
Type of Service	All Hospitals	Rural	Urban	Number of Services
<b>Visits</b>	<b>100%</b>	<b>22.94%</b>	<b>77.06%</b>	<b>863,936</b>
Routine Visits	100%	9.77%	90.23%	235,624
Emergency/Critical Care	100%	29.57%	70.43%	327,709
<b>Specialist/Consultations</b>	<b>100%</b>	<b>18.85%</b>	<b>81.35%</b>	<b>71,375</b>
Other Visit	100%	28.32%	71.68%	229,228
<b>Imaging</b>	<b>100%</b>	<b>26.43%</b>	<b>73.57%</b>	<b>1,043,865</b>
Standard Imaging	100%	27.44%	72.56%	844,743
Advanced Imaging	100%	22.16%	77.84%	199,122
<b>Surgery</b>	<b>100%</b>	<b>22.80%</b>	<b>77.20%</b>	<b>423,120</b>
Ambulatory/Minor	100%	22.18%	77.82%	73,826
Endoscopy	100%	21.53%	78.47%	73,585
Cataract/Lens/Other Eye	100%	20.54%	79.46%	51,945
Unclassified Surgery	100%	23.95%	76.05%	223,764
<b>Tests</b>	<b>100%</b>	<b>27.43%</b>	<b>72.57%</b>	<b>3,745,084</b>
Lab Tests	100%	28.01%	71.99%	3,407,164
Other Tests	100%	21.53%	78.47%	337,920
<b>Other</b>	<b>100%</b>	<b>27.46%</b>	<b>72.54%</b>	<b>711,883</b>
Dialysis/Oncology	100%	12.85%	87.15%	95,871
Other	100%	29.73%	70.27%	616,012
Percent of All Services	100%	26.42%	73.58%	
Sum of <b>All Services</b>	<b>6,787,888</b>	<b>1,793,216</b>	<b>4,994,672</b>	



Figure'5

“Distribution of OPD Services Within Hospital Type:  
Urban and Rural Location

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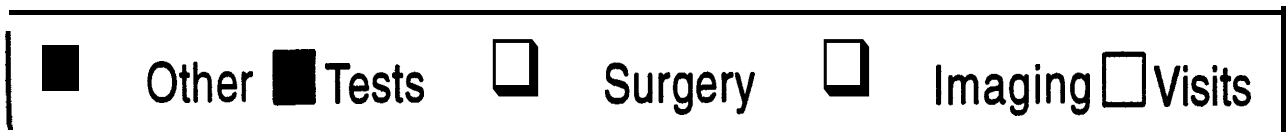
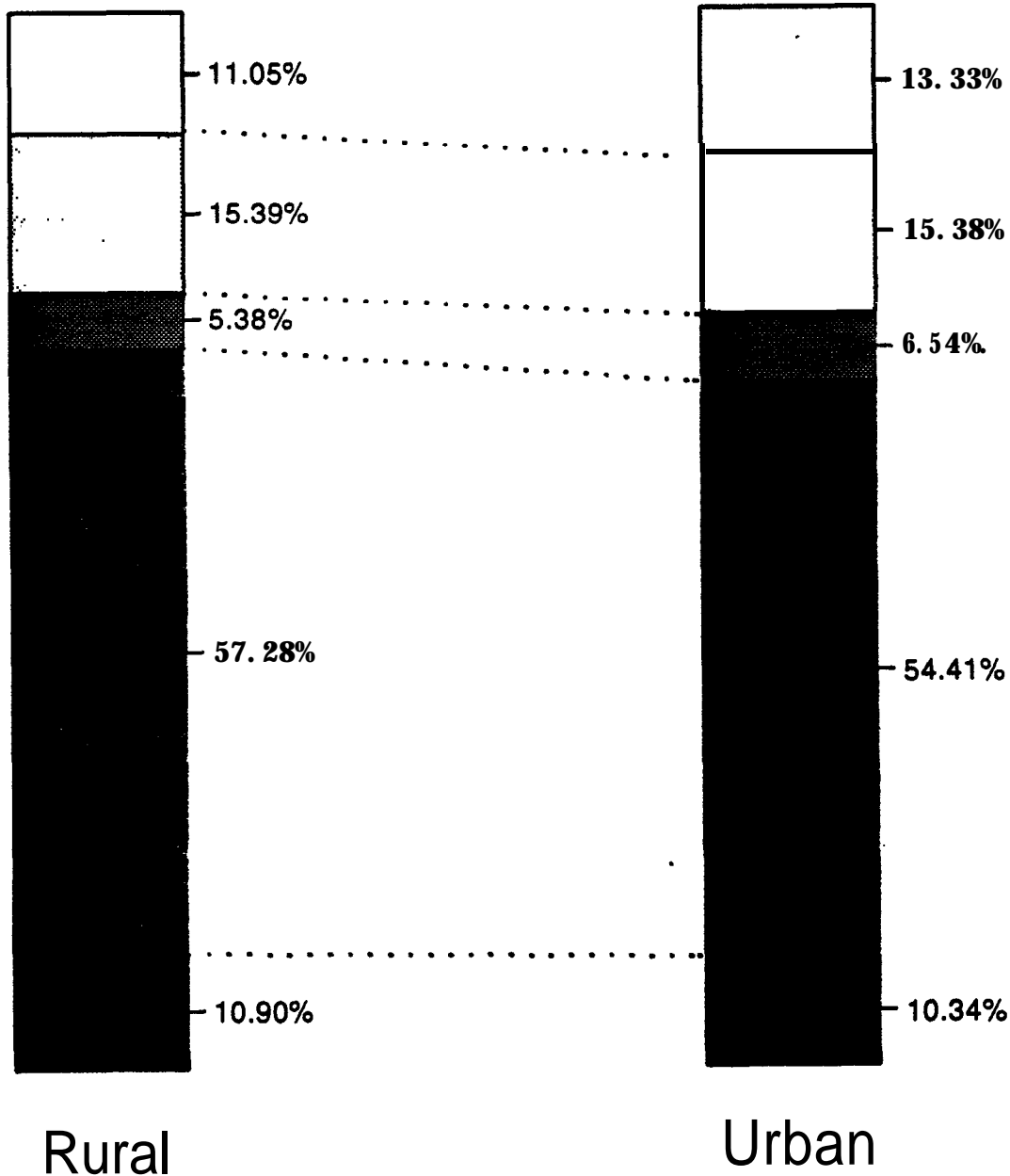


Figure 6

## Concentration of OPD Services Across Hospital Type: Urban and Rural Location

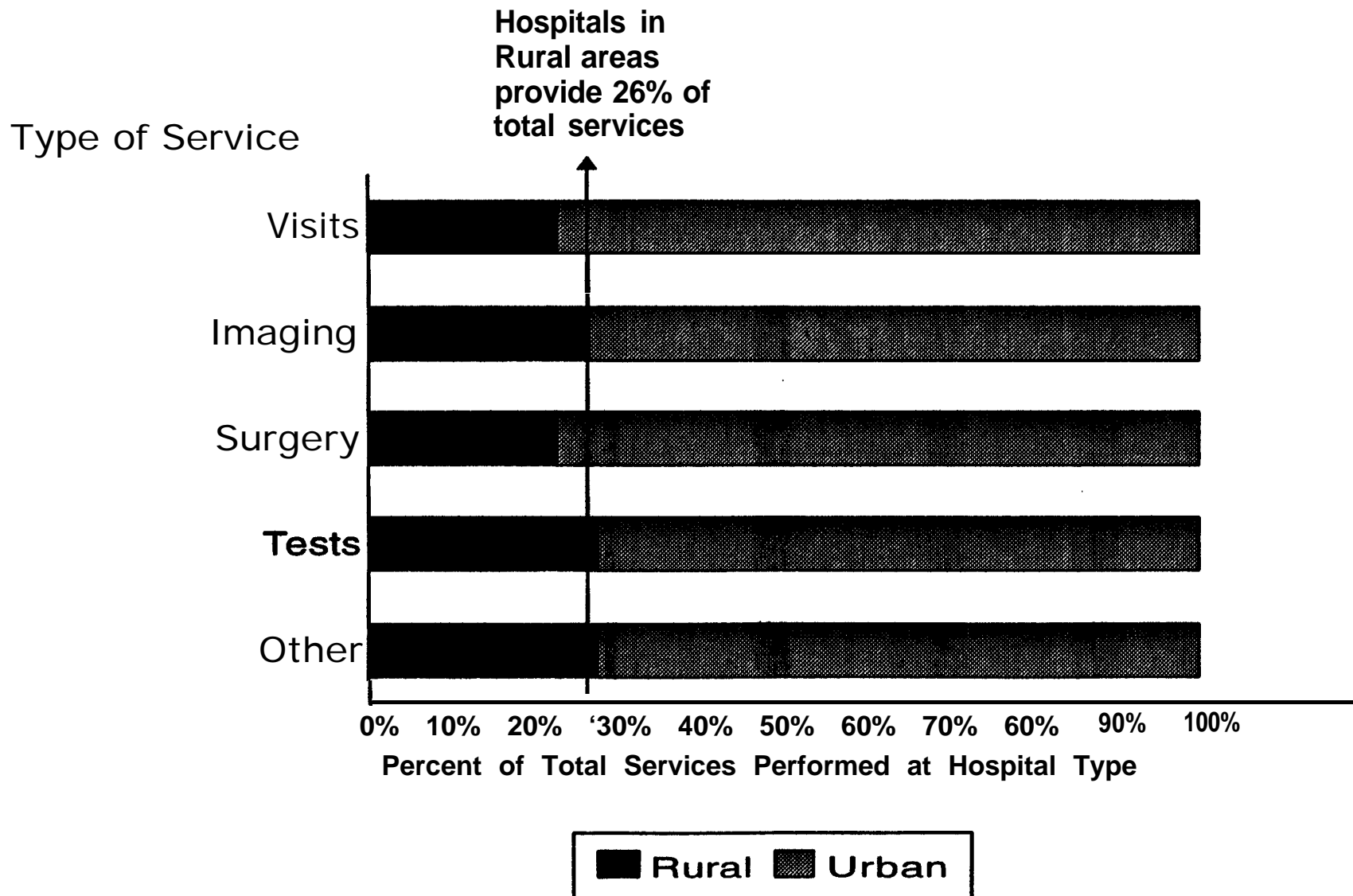


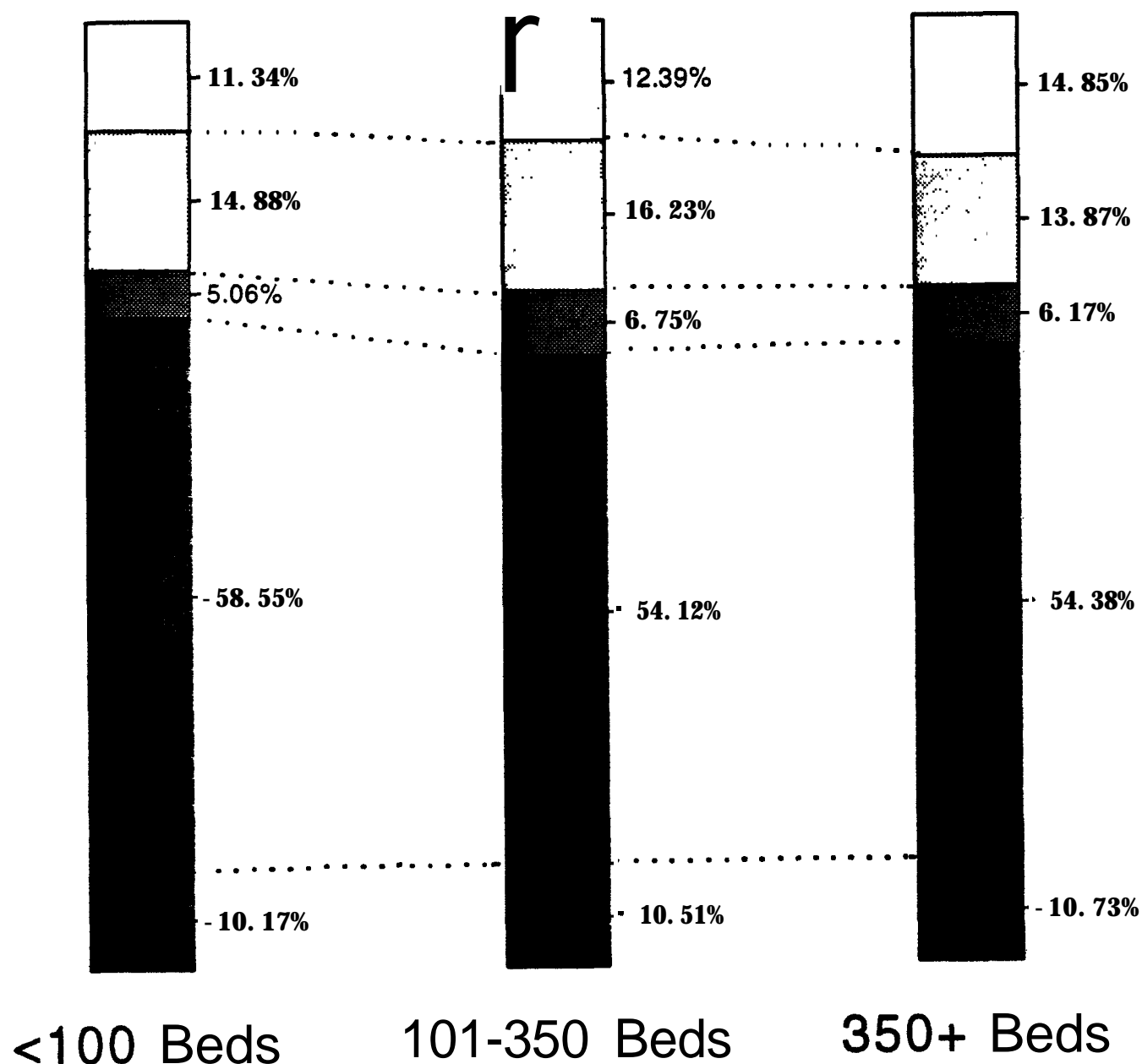
Table 4  
HOPD Services by Type of Service and Hospital Type:  
**Bedsizes**

Distribution of OPD Services Within Hospital Type				
Type of Service	All Hospitals	<=100 Beds	101-350 Beds	350+ Beds
<b>Visits</b>	<b>12.73%</b>	<b>11.34%</b>	<b>12.39%</b>	<b>14.85%</b>
Routine Visits	3.47%	1.64%	2.76%	6.88%
Emergency/Critical Care	4.83%	5.38%	4.94%	4.04%
<b>Specialist/Consultations</b>	<b>1.05%</b>	<b>0.59%</b>	<b>1.16%</b>	<b>1.23%</b>
Other Visit	3.38%	3.73%	3.52%	2.70%
<b>Imaging</b>	<b>15.38%</b>	<b>14.88%</b>	<b>16.23%</b>	<b>13.87%</b>
Standard Imaging	12.44%	12.79%	13.01%	10.79%
Advanced Imaging	2.93%	2.09%	3.22%	3.08%
<b>Surgery</b>	<b>6.23%</b>	<b>5.06%</b>	<b>6.75%</b>	<b>6.17%</b>
Ambulatory/Minor	1.09%	0.88%	1.16%	1.12%
Endoscopy	1.08%	0.81%	1.17%	1.14%
<b>Cataract/Lens/Other Eye</b>	<b>0.77%</b>	<b>0.55%</b>	<b>0.87%</b>	<b>0.73%</b>
Unclassified Surgery	3.30%	2.82%	3.55%	3.17%
<b>Tests</b>	<b>55.17%</b>	<b>58.55%</b>	<b>54.12%</b>	<b>54.37%</b>
Lab Tests	50.19%	54.72%	48.85%	48.96%
Other Tests	4.98%	3.83%	5.26%	5.42%
<b>Other</b>	<b>10.49%</b>	<b>10.17%</b>	<b>10.51%</b>	<b>10.73%</b>
Dialysis/Oncology	1.41%	0.25%	1.37%	2.63%
Other	9.08%	9.92%	9.14%	8.10%
Percent of All Services	100%	100%	100%	100%
Sum of All Services	6,787,888	1,522,874	3,681,732	1,583,282

Concentration of OPD Services Across Hospital Type					
Type of Service	All Hospitals	<=100 Beds	101-350 Beds	350+ Beds	Number of Services
<b>Visits</b>	<b>100%</b>	19.99%	52.79%	27.22%	<b>863,936</b>
Routine Visits	100%	10.61%	43.14%	46.25%	235,624
Emergency/Critical Care	100%	24.98%	55.51%	19.51%	327,709
<b>Specialist/Consultations</b>	<b>100%</b>	12.60%	60.04%	27.36%	71,375
Other Visit	100%	24.81%	56.55%	18.64%	229,228
<b>Imaging</b>	<b>100%</b>	21.71%	57.25%	21.04%	<b>1,043,865</b>
Standard Imaging	100%	23.06%	56.71%	20.23%	844,743
<b>Advanced Imaging</b>	<b>100%</b>	<b>15.96%</b>	<b>59.56%</b>	<b>24.48%</b>	<b>199,122</b>
<b>Surgery</b>	<b>100%</b>	<b>18.20%</b>	<b>58.73%</b>	<b>23.07%</b>	<b>423,120</b>
Ambulatory/Minor	100%	18.07%	57.86%	24.07%	73,826
Endoscopy	100%	16.70%	58.73%	24.58%	73,585
Cataract/Lens/Other Eye	100%	16.22%	61.63%	22.15%	51,945
Unclassified Surgery	100%	19.20%	58.34%	22.46%	223,764
<b>Tests</b>	<b>100%</b>	<b>23.81%</b>	<b>53.20%</b>	22.09%	<b>3,745,084</b>
Lab Tests	100%	24.46%	52.79%	22.75%	3,407,164
Other Tests	100%	17.28%	57.36%	25.38%	337,920
<b>Other</b>	<b>100%</b>	21.76%	54.37%	23.87%	711,883
Dialysis/Oncology	100%	4.01%	52.56%	43.42%	95,871
Other	100%	24.52%	54.65%	20.83%	616,012
Percent of All Services	100%	22.44%	54.24%	23.33%	
Sum of All Services	6,787,888	1,522,874	3,681,732	1,583,282	

# Figure 7

## Distribution of OPD Services Within Hospital Type: Bedsize



Other
  Tests
  Surgery
  Imaging
  Visits

# Figure 8

## Concentration of OPD Services Across 'Hospital Type: Bedsize

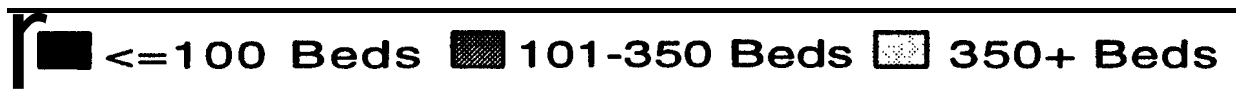
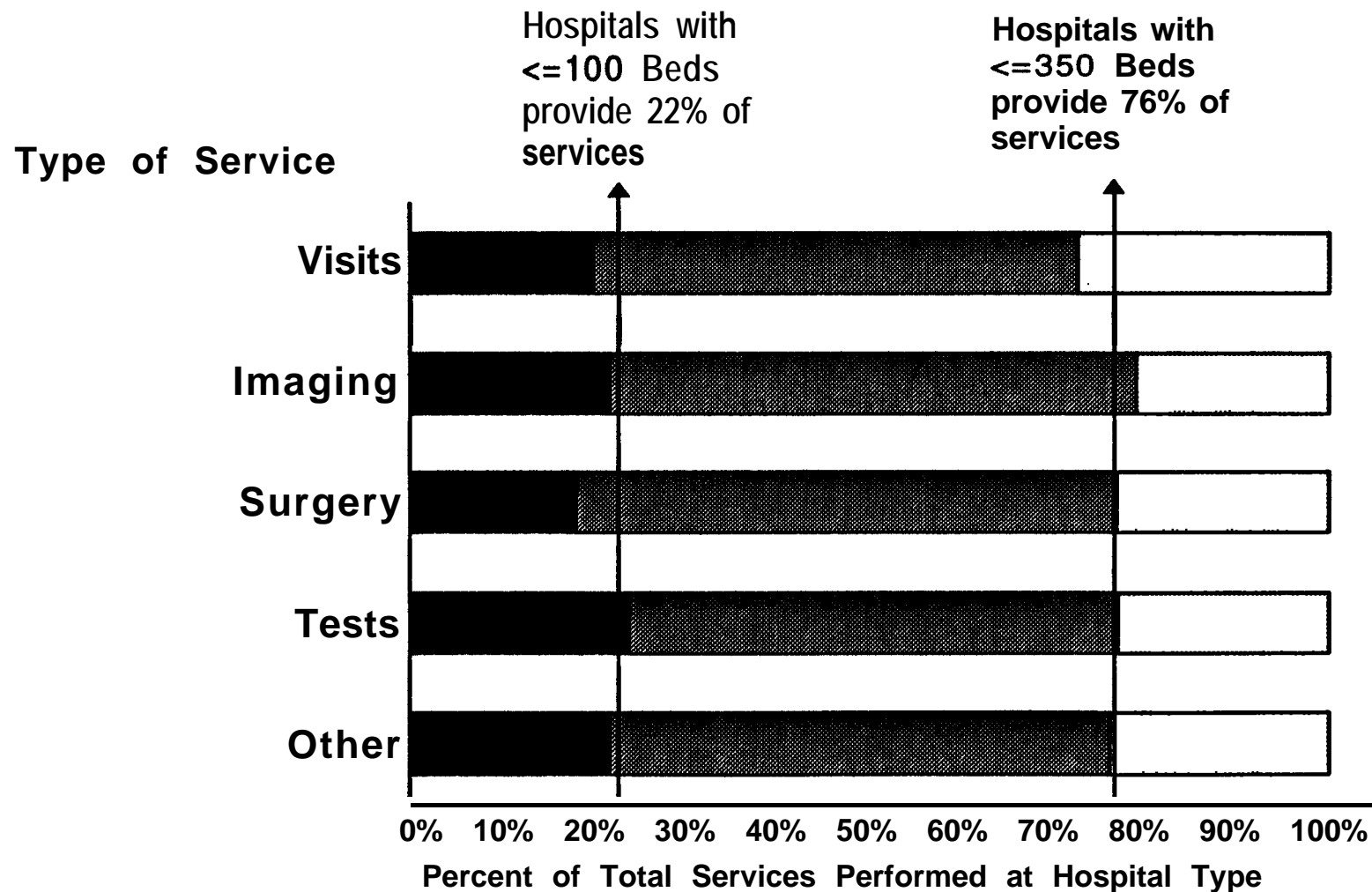


Table 5  
HDPD Services by Type of Service and Hospital Type:  
Region

Distribution of OPD Services Within Hospital Type										
Type of Service	All Hospitals	New England	Middle Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific
Visits	12.73%	15.02%	12.10%	13.09%	11.40%	12.74%	12.26%	12.59%	15.21%	13.99%
Routine Visits	3.47%	5.20%	4.23%	2.76%	3.59%	2.12%	2.78%	2.28%	4.68%	3.51%
Emergency/Critical Care	4.83%	4.84%	4.01%	5.81%	3.88%	7.00%	4.28%	5.68%	5.01%	5.66%
Specialist/Consultations	1.05%	1.20%	1.14%	1.02%	1.11%	0.67%	1.10%	0.94%	1.18%	0.94%
Other Visit	3.38%	3.79%	2.71%	3.51%	3.03%	2.95%	4.09%	3.69%	4.38%	3.87%
Imaging	15.36%	13.46%	13.63%	17.67%	15.10%	17.43%	15.28%	16.85%	15.20%	15.62%
Standard Imaging	12.44%	10.87%	11.29%	13.84%	12.20%	13.94%	12.19%	13.48%	11.97%	12.72%
Advanced Imaging	2.93%	2.59%	2.34%	3.23%	2.91%	3.49%	3.10%	3.38%	3.23%	2.90%
Surgery	8.23%	4.76%	4.93%	7.03%	8.00%	6.70%	7.65%	7.98%	8.50%	6.39%
Ambulatory/Minor	1.09%	1.05%	0.91%	1.07%	1.21%	1.16%	1.31%	1.06%	1.04%	1.02%
Endoscopy	1.08%	0.89%	0.88%	1.27%	1.03%	1.21%	1.26%	1.29%	1.06%	1.05%
Cataract/Lens/Other Eye	0.77%	0.60%	0.63%	0.82%	0.69%	0.87%	0.88%	1.07%	0.57%	0.89%
Unclassified Surgery	3.30%	2.22%	2.52%	3.87%	3.07%	3.47%	4.20%	4.57%	2.84%	3.43%
Tests	55.37%	53.84%	62.13%	49.85%	58.15%	47.82%	53.79%	49.45%	99.55%	52.82%
Lab Tests	50.19%	54.37%	57.47%	44.42%	53.18%	42.82%	49.23%	44.05%	48.80%	47.22%
Other Tests	4.98%	4.47%	4.65%	5.43%	4.97%	5.00%	4.48%	5.39%	4.75%	5.41%
Other	10.49%	7.91%	7.21%	12.98%	9.35%	15.30%	11.18%	13.12%	10.54%	11.39%
Dialysis/Oncology	1.41%	1.80%	1.55%	1.52%	1.54%	1.15%	1.13%	1.16%	0.96%	1.21%
Other	9.08%	6.11%	5.66%	11.45%	7.82%	14.15%	9.97%	11.97%	9.58%	10.16%
Percent of All Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sum of All Services	6,787,888	506,698	1,244,638	1,081,159	1,493,495	413,721	547,774	585,851	291,154	643,398

Concentration of OPD Services Across Hospital Type											
Type of Service	All Hospitals	New England	Middle Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific	Number of Services
Visits	100%	8.81%	17.43%	18.38%	19.71%	6.10%	7.77%	8.24%	5.15%	10.42%	863,936
Routine Visits	100%	11.17%	22.36%	12.66%	22.77%	3.72%	6.47%	5.47%	5.78%	9.59%	235,624
Emergency/Critical Care	100%	7.49%	15.23%	19.15%	16.76%	8.83%	7.16%	9.81%	4.45%	11.12%	327,709
Specialist/Consultations	100%	8.50%	19.98%	15.41%	23.12%	3.91%	8.42%	7.43%	4.74%	8.51%	71,375
Other Visit	100%	8.37%	14.73%	16.57%	19.72%	5.32%	9.78%	9.11%	5.53%	10.87%	229,228
Imaging	100%	85.3%	13.26%	17.37%	21.61%	8.81%	8.02%	9.13%	4.24%	9.62%	1,043,865
Standard Imaging	100%	6.52%	16.63%	17.71%	21.56%	6.83%	7.90%	9.03%	4.13%	9.69%	844,743
Advanced Imaging	100%	6.58%	14.65%	17.51%	21.79%	7.25%	8.53%	9.59%	4.72%	9.36%	199,121
Surgery	100%	5.70%	14.51%	17.96%	21.17%	6.59%	9.90%	10.68%	3.78%	9.73%	423,120
Ambulatory/Minor	100%	7.23%	15.26%	15.74%	24.40%	6.50%	9.75%	8.14%	4.12%	6.86%	73,826
Endoscopy	100%	6.11%	14.85%	18.64%	20.97%	6.80%	9.35%	9.89%	4.19%	9.19%	73,585
Cataract/Lens/Other Eye	100%	5.81%	15.18%	17.01%	19.87%	6.92%	9.31%	11.71%	3.17%	11.02%	51,945
Unclassified Surgery	100%	5.04%	13.99%	18.69%	20.47%	6.41%	10.26%	11.56%	3.69%	9.67%	223,764
Tests	100%	7.86%	20.65%	14.38%	23.19%	5.28%	7.88%	7.17%	4.16%	9.04%	3,745,084
Lab Tests	100%	8.09%	20.99%	14.09%	23.31%	5.20%	7.91%	7.32%	4.17%	8.92%	3,407,164
Other Tests	100%	6.70%	17.14%	17.38%	21.97%	6.12%	7.26%	9.03%	4.10%	10.30%	337,920
Other	100%	5.63%	12.60%	19.69%	19.82%	8.99%	8.94%	10.43%	1.31%	10.28%	711,983
Dialysis/Oncology	100%	9.54%	20.10%	17.10%	23.93%	4.97%	6.48%	6.83%	2.91%	8.15%	95,871
Other	100%	5.02%	11.43%	20.09%	18.95%	9.50%	8.86%	10.99%	4.53%	10.82%	616,012
Percent All Services	100%	7.46%	18.34%	15.93%	22.00%	6.09%	8.07%	8.34%	4.29%	9.48%	
Sum of All Services	6,787,888	506,698	1,244,638	1,081,159	1,493,495	413,721	547,774	585,851	291,154	843,398	

Figure 9  
Distribution of Services Within Hospital Type  
Region

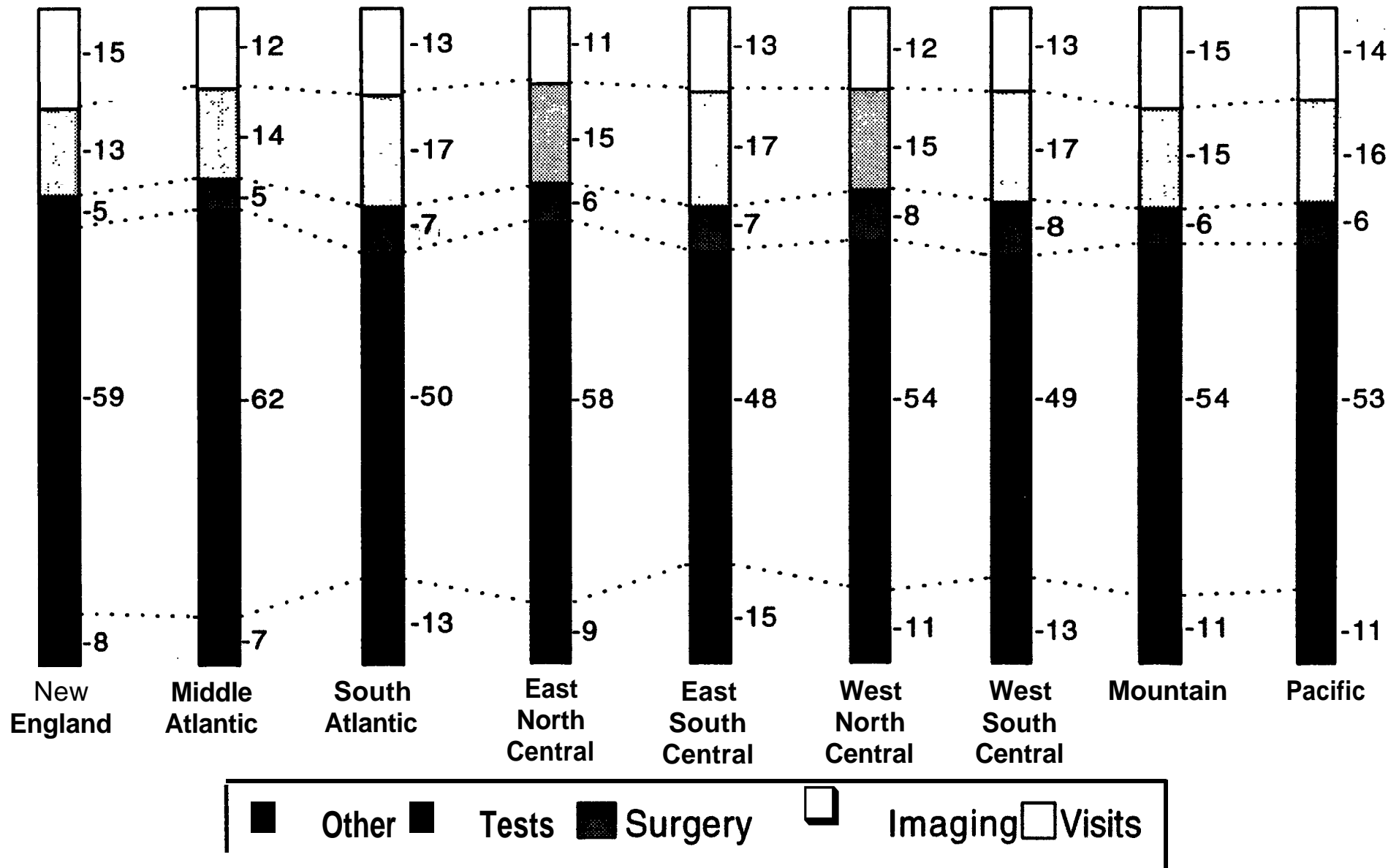


Table 6  
HOPD Casemix  
by Hospital Type

Hospital Type	Casemix
All Hospitals	1.00
Region	
New England	0.92
Mid-Atlantic	0.94
South Atlantic	1.06
East North Central	0.98
East South Central	0.95
West North Central	1.01
West South Central	1.06
Mountain	0.99
Pacific	1.09
Bedsizes	
50 or less	0.66
51-100	0.84
101-250	1.00
251-350	1.08
351-500	1.16
501 or more	1.18
Urban/Rural	
Rural	0.85
Urban	1.05
Other Urban	1.06
Large Urban	1.05
Teaching Status	
Non-teaching	0.97
Teaching	1.04
Minor Teaching	1.10
Major Teaching	0.93
Disproportionate Share	
Non-DSH	1.02
DSH	0.96

Source: Miller and Sulvetta, 1992.



Table 7  
HOPD Services per Beneficiary/Patient by Type of Service

Type of Service	Services per Beneficiary	Services per Patient
All Services	9.32	7.60
Visits	<b>1.19</b>	0.97
Routine Visits	0.32	0.26
Emergency/Critical Care	0.45	0.37
Specialist/Consultations	0.10	0.08
Other Visit	0.31	0.26
Imaging	1.43	<b>1.17</b>
Standard Imaging	1.16	0.95
Advanced Imaging	0.27	0.22
Surgery	0.58	0.47
Ambulatory/Minor	0.10	0.08
Endoscopy	0.10	0.08
Cataract/Lens/Other Eye	0.07	0.06
Unclassified Surgery	0.31	0.25
Tests	5.14	4.19
Lab Tests	4.68	3.82
Other Tests	0.46	0.38
Other	0.98	<b>0.80</b>
Dialysis/Oncology	0.13	0.11
Other	0.85	0.69
Number of Beneficiaries/Patients	728,028	893,025

Table 8  
HOPD Services per Patient by Type of Service and Hospital Type:  
Teaching Status

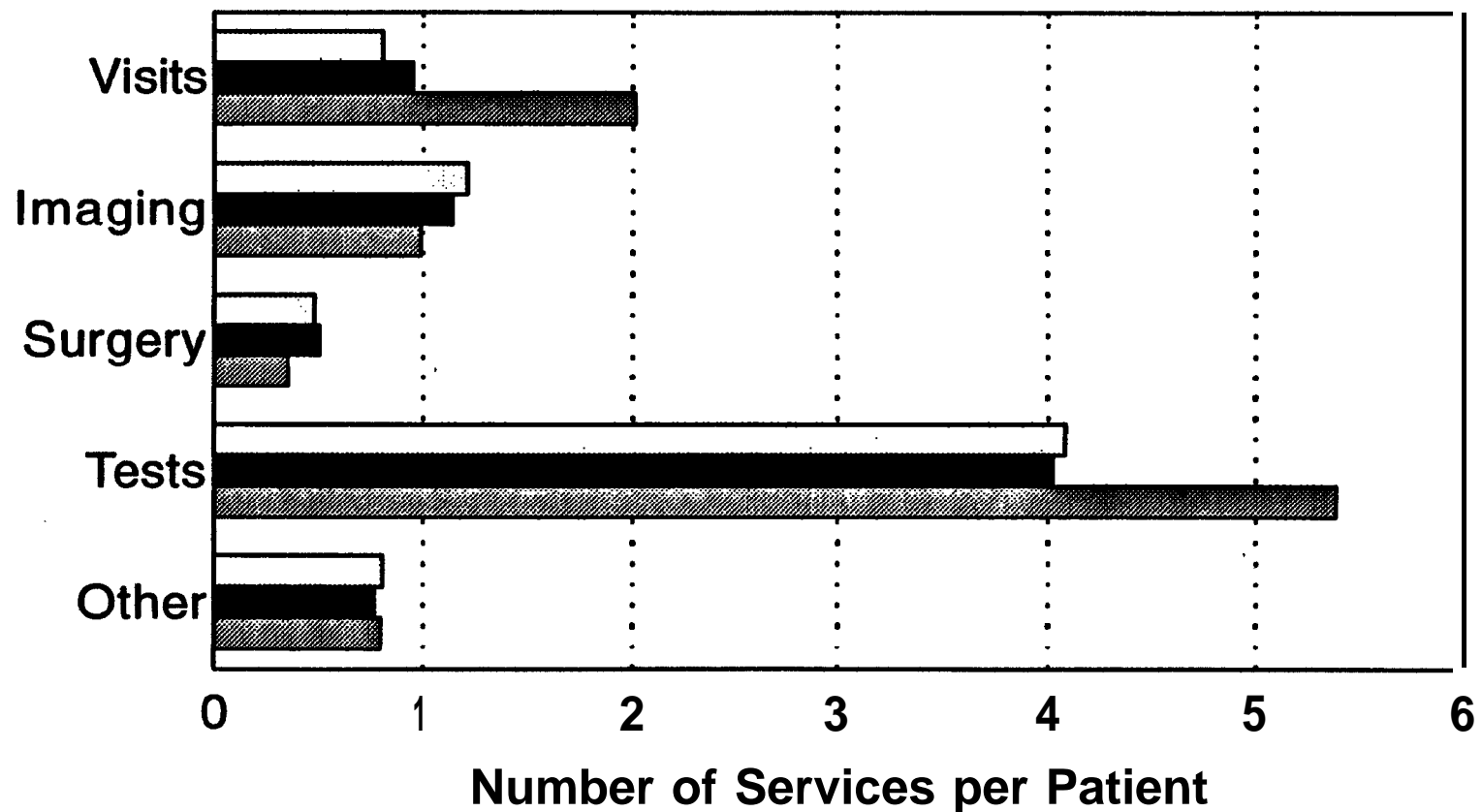
Type of Service	All Hospitals	Non Teaching	Minor Teaching	Major Teaching	Number of Services
All Services	7.60	7.41	7.38	9.54	<b>6,787,888</b>
Visits	0.97	<b>0.81</b>	0.95	2.01	<b>863,936</b>
Routine Visits	0.26	0.07	0.28	1.41	<b>235,624</b>
Emergency/Critical Care	0.37	0.40	0.33	0.29	327,709
<b>Specialist/Consultations</b>	0.08	0.07	0.09	0.10	71,375
Other Visit	0.26	0.27	0.25	0.21	229,228
Imaging	1.17	1.21	1.14	<b>0.99</b>	<b>1,043,865</b>
Standard Imaging	0.95	1.00	0.90	0.80	844,743
Advanced Imaging	0.22	0.22	0.24	0.19	199,122
Surgery	0.47	0.48	0.50	0.35	423,120
Ambulatory/Minor	0.08	0.08	0.09	0.08	73,826
Endoscopy	0.08	0.08	0.09	0.06	73,585
Cataract/Lens/Other Eyes	0.06	0.06	0.06	0.04	51,945
Unclassified Surgery	0.25	0.26	0.26	0.18	223,764
<b>Tests</b>	4.19	4.09	4.03	<b>5.39</b>	<b>3,745,084</b>
Lab Tests	3.82	3.74	3.62	4.93	<b>3,407,164</b>
Other Tests	0.38	0.35	0.41	0.46	337,920
Other	<b>0.80</b>	0.81	0.77	<b>0.80</b>	<b>711,883</b>
Dialysis/Oncology	0.11	0.07	0.15	0.21	95,871
Other	0.69	0.74	0.62	0.59	616,012
Number of Patients	893,025	517,476	290,428	85,121	

Figure 10

## Utilization Pattern of OPD Services by Hospital Type: Teaching Status

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Type of Service



□ Non-Teaching    ■ Minor Teaching    ▨ Major Teaching

Figure 11

## Utilization Pattern of OPD Services by Hospital Type: Disproportionate Share Status

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Type of Service

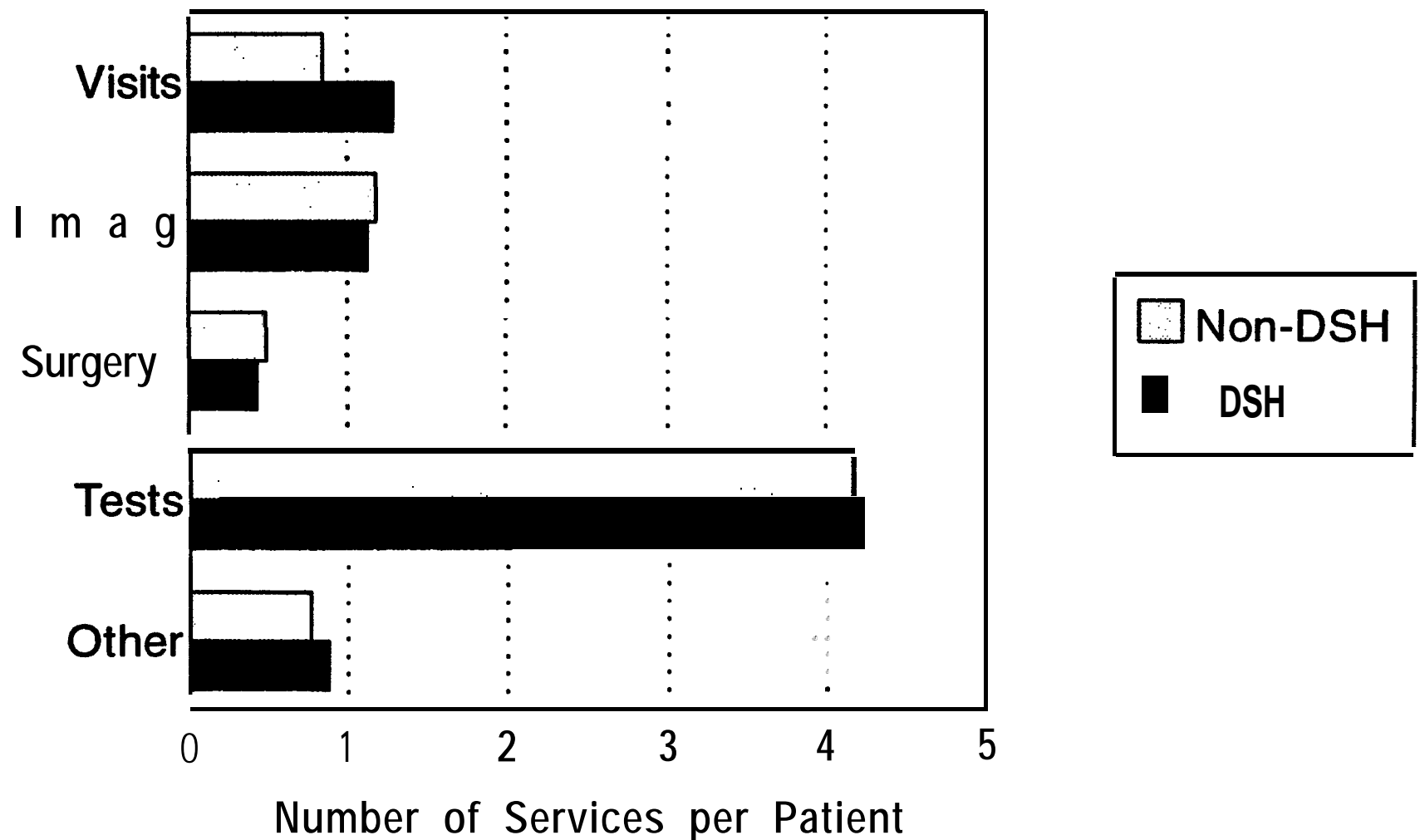


Table 9  
HOPD Services per Patient by Type of Service and Hospital Type:  
Disproportionate Share Status

Type of Service	All Hospitals	Non Disproportionate Share	Disproportionate Share	Number of Services
All Services	7.60	7.46	7.97	<b>6,787,888</b>
<b>Visits</b>	<b>0.97</b>	<b>0.85</b>	<b>1.29</b>	<b>863,936</b>
Routine Visits	0.26	0.14	0.58	235,624
Emergency/Critical Care	0.37	0.36	0.39	327,709
Specialist/Consultations	0.08	0.08	0.08	71,375
Other Visit	0.26	0.26	0.24	229,228
imaging	1.17	1.18	<b>1.13</b>	<b>1,043,865</b>
Standard Imaging	0.95	0.96	0.91	844,743
Advanced Imaging	0.22	0.23	0.22	199,122
Surgery	0.47	0.49	0.43	423,120
Ambulatory/Minor	0.08	0.09	0.07	73,826
Endoscopy	0.08	0.09	0.08	73,585
Cataract/Lens/Other Eye	0.06	0.06	0.05	51,945
Unclassified Surgery	0.25	0.26	0.22	223,764
<b>Tests</b>	<b>4.19</b>	<b>4.18</b>	<b>4.24</b>	<b>3,745,084</b>
Lab Tests	3.82	3.81	3.84	<b>3,407,164</b>
Other Tests	0.38	0.37	0.40	337,920
Mher	0.80	0.77	0.88	<b>711,883</b>
Dialysis/Oncology	0.11	0.10	0.13	95,871
Other	0.69	0.67	0.75	616,012
Number of Patients	893,025	645,974	247,051	

Table 10  
HOPD Services per Patient by Type of Service and Hospital Type:  
Urban and Rural Location

Type of Service	All Hospitals	Rural	Urban	Number of Services
All Services	7.60	7.98	7.47	<b>6,787,888</b>
Visits	0.97	0.88	<b>1.00</b>	<b>863,936</b>
Routine Visits	0.26	0.10	0.32	235,624
Emergency/Critical Care	0.37	0.43	0.35	327,709
Specialist/Consultations	0.08	0.06	0.09	71,375
Other Visit	0.26	0.29	0.25	229,228
Imaging	1.17	<b>1.23</b>	<b>1.15</b>	<b>1,043,865</b>
Standard Imaging	0.95	1.03	0.92	844,743
Advanced Imaging	0.22	0.20	0.23	199,122
Surgery	0.47	<b>0.43</b>	9.49	423,120
Ambulatory/Minor	0.08	0.07	0.09	73,826
Endoscopy	0.08	0.07	0.09	73,585
Cataract/Lens/Other Eye	0.06	0.05	0.06	51,945
Unclassified Surgery	0.25	0.24	0.25	223,764
Tests	4.19	4.57	4.07	<b>3,745,084</b>
Lab Tests	3.82	4.25	3.67	<b>3,407,164</b>
Other Tests	0.38	0.32	0.40	337,920
Other	<b>0.80</b>	0.87	0.77	<b>711,883</b>
Dialysis/Oncology	0.11	0.05	0.13	95,871
Other	0.69	0.82	0.65	616,012
Total Number of Patients	893,025	224,691	666,334	

Figure 12

## Utilization Pattern of OPD Services by Hospital Type: Urban and Rural Location

Type of Service

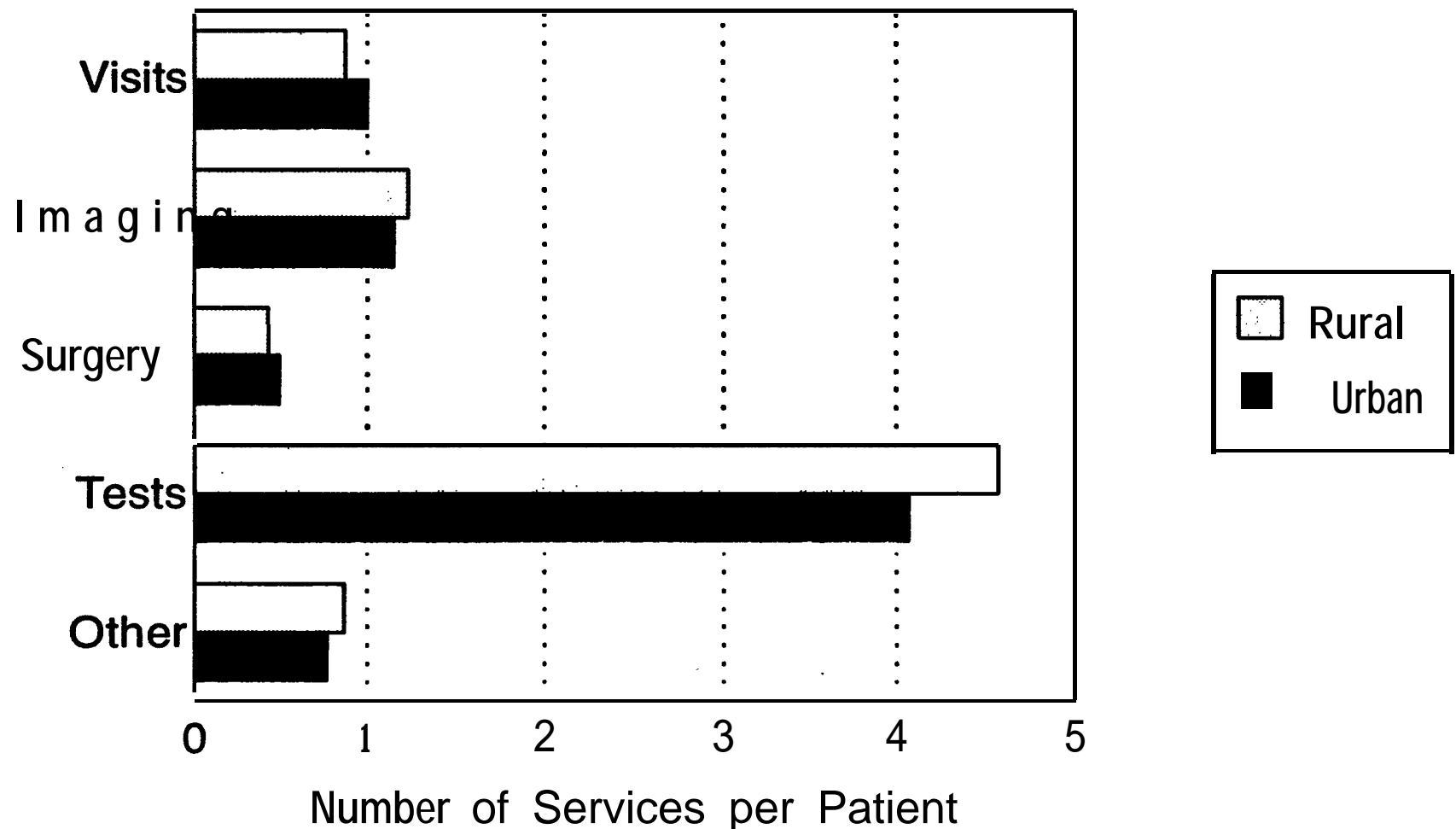


Table 11  
HOPD Services per Patient by Type of Service and Hospital Type:  
**Bedsizes**

Type of Service	All Hospitals	<b>&lt;=100</b> Beds	<b>101-350</b> Beds	<b>350+</b> Beds	Number of Services
All Services	7.60	7.89	7.41	7.79	<b>6,787,888</b>
Visits	<b>0.97</b>	<b>0.90</b>	<b>0.92</b>	<b>1.16</b>	863,936
Routine Visits	0.26	0.13	0.20	0.54	235,624
Emergency/Critical Care	0.37	0.42	0.37	0.31	327,709
Specialist/Consultations	0.08	0.05	0.09	0.10	71,375
Other Visit	0.26	0.29	0.26	0.21	229,228
Imaging	<b>1.17</b>	1.17	1.20	<b>1.08</b>	<b>1,043,865</b>
Standard Imaging	0.95	<b>1.01</b>	0.96	0.84	844,743
Advanced Imaging	0.22	0.16	0.24	0.24	199,122
Surgery	0.47	0.40	<b>0.50</b>	0.48	<b>423,120</b>
Ambulatory/Minor	0.08	0.07	0.09	0.09	73,826
Endoscopy	0.08	0.06	0.09	0.09	73,585
Cataract/Lens/Other Eye	0.06	0.04	0.06	0.06	51,945
Unclassified Surgery	0.25	0.22	0.26	0.25	223,764
Tests	4.19	4.62	4.01	4.24	<b>3,745,084</b>
Lab Tests	3.82	4.32	3.62	3.81	<b>3,407,164</b>
Other Tests	0.38	0.30	0.39	0.42	337,920
Other	<b>0.80</b>	<b>0.80</b>	<b>0.78</b>	0.64	<b>711,883</b>
Dialysis/Oncology	0.11	0.02	0.10		<b>95,871</b>
Other	0.69	0.78	0.68	<b>0.80</b>	<b>616,012</b>
Number of Patients	893,025	192,950	496,837	203,238	



Figure 13  
Utilization Pattern of OPD Services by Hospital Type:  
Bedsize

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Type of Service

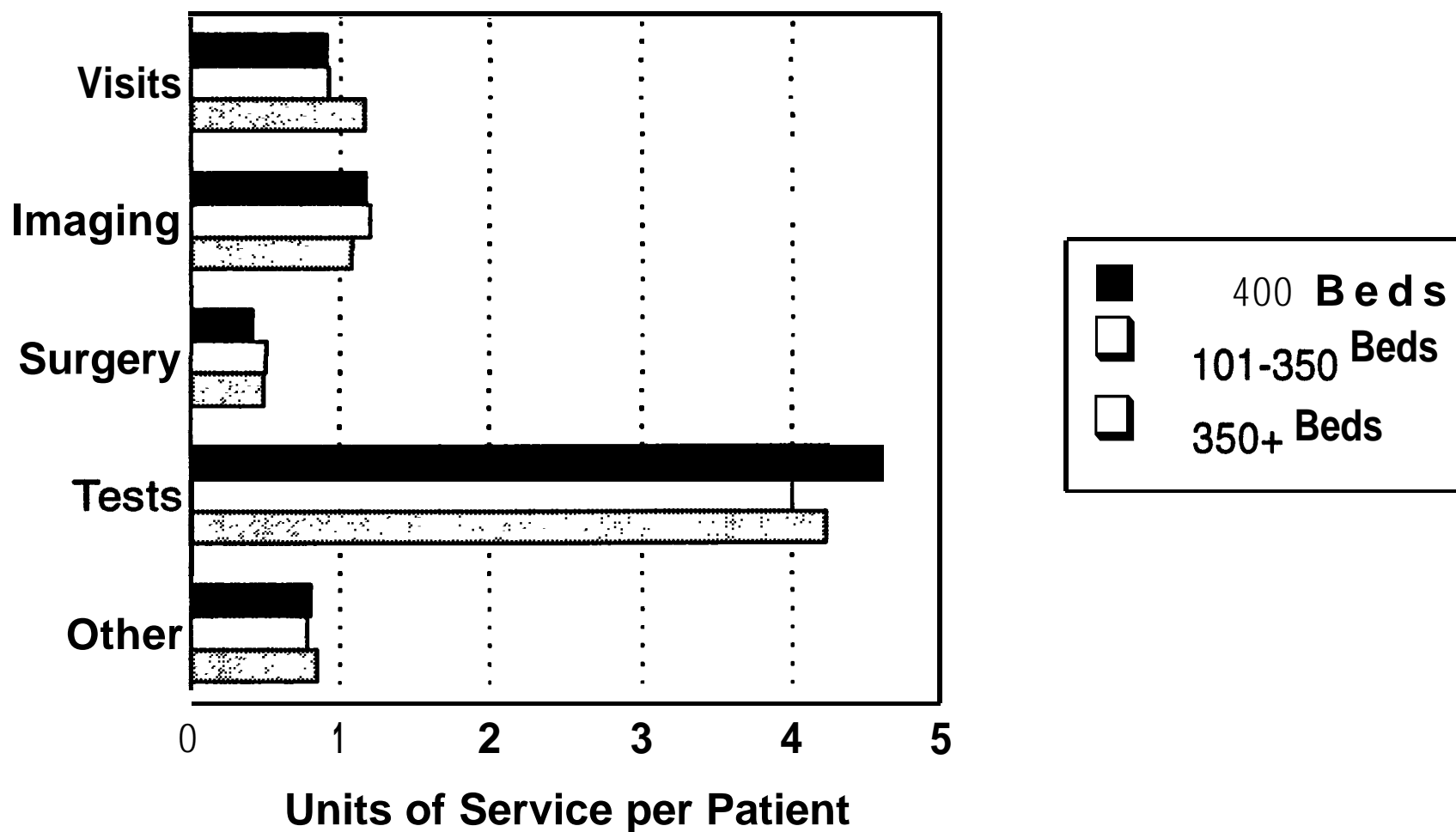


Table 12  
HOPD Services per Patient by Type of Service and Hospital Type:  
Region

Type of Service	All Hospitals	New England	Middle Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific	Number of Services
AU Services	7.80	8.58	8.27	8.92	8.48	7.02	7.19	7.23	8.97	8.75	6,787,888
Visits	0.97	1.29	1.00	0.91	0.96	0.89	0.88	0.91	1.06	9.94	863,936
Routine Visits			0.35								
Emergency/Critical Care	0.26 0.37	0.45 0.42	0.33	0.40 0.19	0.30 0.31	0.49 0.15	0.20 0.31	0.41 0.16	0.35 0.33	0.24 0.36	235,624 327,709
Specialist/Consultations	0.08	0.10	0.09	0.07	0.09	0.05	0.08	0.07	0.08	0.06	71,375
Other Visit	0.26	0.32	0.22	0.24	0.26	0.21	0.29	0.27	0.30	0.26	229,228
Imaging	1.17	1.16	1.19	1.18	1.28	1.22	1.10	1.22	1.06	1.05	1,043,865
Standard Imaging	0.95	0.93	0.93	0.96	1.03	0.98	0.88	0.97	0.83	0.86	844,743
Advanced Imaging	0.22	0.22	0.19	0.22	0.25	0.24	0.22	0.24	0.23	0.20	199,122
Surgery	0.47	0.41	0.41	0.49	0.51	0.47	0.55	0.59	0.38	0.43	423,123
Ambulatory/Minor	0.08	0.09	0.07	0.07	0.10	0.06	0.09	0.08	0.07	0.07	73,826
Endoscopy	0.08	0.08	0.07	0.09	0.09	0.08	0.06	0.09	0.07	0.07	73,585
Cataract/Lens/Other Eye	0.08	0.05	0.05	0.08	0.08	0.08	0.30	0.08	0.04	0.08	51,945
Unclassified Surgery	0.25	0.19	0.21	0.27	0.26	0.24		0.33	0.20	0.23	223,784
Tests	4.14	5.05	5.13	3.45	4.92	3.36	9.99	3.58	3.73	3.55	3,745,084
Lab Tests	3.82	4.87	4.75	3.07	4.50	3.00	3.54	3.19	3.40	3.19	3,407,164
Other Tests	0.38	0.38	0.38	0.38	0.42	0.35	0.32	0.39	0.33	0.36	337,920
Other	0.80	0.68	0.80	0.90	0.79	1.07	0.80	0.85	0.73	0.77	711,883
Dialysis/Oncology	0.11	0.15	0.13	0.10	0.13	0.08	0.08	0.08	0.07	0.08	95,871
Other	0.69	0.52	0.47	0.79	0.66	0.99	0.72	0.87	0.67	0.89	616,012
Total Number of Patients	893,025	59,045	150,587	156,314	178,511	58,962	76,223	78,229	41,764	95,370	